Antelope Point development concept plan environmental assessment

September 1985

DRAFT

Navajo Nation
and
National Park Service
Glen Canyon National Recreation Area

DEVELOPMENT CONCEPT PLAN/ENVIRONMENTAL ASSESSMENT

ANTELOPE POINT

GLEN CANYON NATIONAL RECREATION AREA/NAVAJO NATION

ARIZONA

DRAFT

Prepared by: Navajo Nation/National Park Service Team

Recommended by: _____ _____
John O. Lancaster, Superintendent Date
Glen Canyon National Recreation Area

_____ _____
Roman Bitsue, Chairman Date
Economic and Community Development
Committee of the Navajo Tribal Council
Navajo Nation, Window Rock, Arizona

Approved by: _____ _____
L. Lorraine Mintzmyer, Regional Director Date
Rocky Mountain Region
National Park Service

_____ _____
Edward T. Begay, Chairman Date
Advisory Committee of the Navajo
Tribal Council

Acknowledged by: _____ _____
Peterson Zah, Chairman Date
Navajo Tribal Council

TABLE OF CONTENTS

LIST OF TABLES/MAPS/FIGURES

I. PURPOSE OF AND NEED FOR THE PLAN

A. GENERAL BACKGROUND

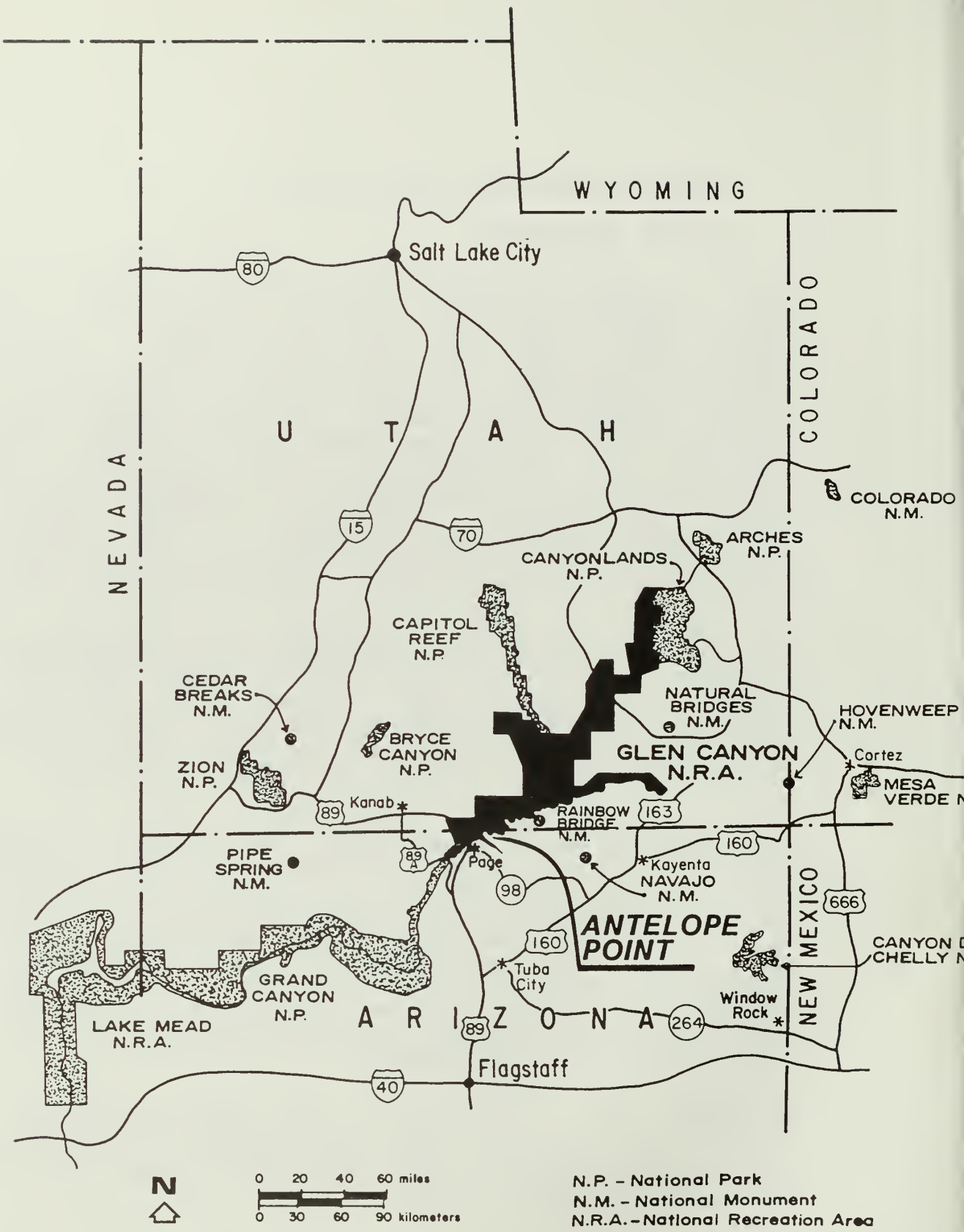
The Navajo Nation and Glen Canyon National Recreation Area share a lengthy boundary along the south shore of Lake Powell, the San Juan River, and the Colorado River segment between Glen Canyon Dam and Lees Ferry. To foster cooperative management and development of Glen Canyon and adjacent tribal lands, the Navajo Nation, the National Park Service, Bureau of Reclamation, Bureau of Indian Affairs, and the Secretary of the Department of the Interior signed a Memorandum of Agreement in 1970 outlining mutual responsibilities in developing and managing the common areas. The agreement recognized the Tribe's desire to commercially develop areas contiguous to Lake Powell for recreational use and provided for cooperative planning, administration, and development of such recreation sites.

The National Park Service's General Management Plan (GMP) for Glen Canyon National Recreation Area designated six potential development sites on the south side of Lake Powell, one of which was Antelope Point, Arizona. A subsequent National Park Service economic feasibility study (1983) concluded that Antelope Point is the most feasible of the six development sites from an economic standpoint.

Recent decisions by the Navajo Tribal Council to proceed with planning for a recreational development at Antelope Point have led to the preparation of this development concept plan. The purpose of the plan is to outline specific development and management proposals for the site. It is combined with an environmental assessment to evaluate the social and environmental issues attendant on implementing the plan. The assessment is tiered from the environmental impact statement associated with the GMP (prepared in 1979), which originally designated the Antelope Point area a development zone.

According to a provision in the joint Memorandum of Agreement, the project area is contiguous and within the 1-mile limit extending from the national recreation area boundary line which is the 3,720-foot contour line onto adjacent Navajo Nation lands.

However, there are certain areas that are included in this plan that are beyond the 1-mile limit. While these areas would not be considered subject to the conditions of the Memorandum of Agreement and this plan, they have been included as recommendations because they are viewed as integral to the Antelope Point project and to its economic success. This area includes the Antelope Point Access Road corridor and the Navajo land visitor contact facility.



map 1

Regional Map

Antelope Point

Glen Canyon National Recreation Area / Navajo Nation

United States Department of the Interior - National Park Service

608 | 80,061
3-85 | RMRO

This development concept plan can be amended at a future date as changing conditions warrant and in accordance with the National Park Service planning process (NPS-2). The same joint planning and review process would be followed if any amendments to the plan were proposed. While the plan should be closely adhered to by all parties, some flexibility exists to make minor deviations during the comprehensive design phases without initiating a formal amendment to the document; if such changes are acceptable to all parties involved.

B. PERTINENT AUTHORITIES

The proclaimed Treaty of 1868 (15 Stat. 667) between the Navajo Tribe of Indians and the United States of America established the Navajo Indian Reservation.

The Act of June 17, 1902, "The Reclamation Act," 32 Stat. 388, 43 U.S.C., Sec. 391 et seq.

The Act of August 25, 1916, 39 Stat. 535; 16 U.S.C.1, established the National Park Service.

The Act of August 7, 1946, 60 Stat. 885; 16 U.S.C.17j-2, - Appropriations for the National Park Service are authorized for: (b) administration, protection, improvement, and maintenance of areas under the jurisdiction of other agencies of the Government, devoted to recreational use pursuant to cooperative agreements.

Public Law 84-485, 70 Stat. 105, Colorado River Storage Project Act, April 11, 1956, "To authorize the Secretary of the Interior to construct, operate, and maintain the Colorado River Storage Project and participating projects. . . ."

Public Law 85-868, 72 Stat. 1686, "To provide for the exchange of lands between the United States and the Navajo Tribe. . .," dated September 2, 1958. Sec. 2 (a) Describes Parcels A and B.

ACMA - 35 - 62, March 27, 1962, Resolution of the Advisory Committee of the Navajo Tribal Council to establish the Lake Powell Navajo Tribal Park.

September 11, 1970, "Memorandum of Agreement among the National Park Service, the Bureau of Indian Affairs, the Bureau of Reclamation, and the Navajo Tribe of Indians, relating to the use and development of the Glen Canyon National Recreation Area and adjacent Tribal lands."

Public Law 92-593, 86 Stat. 1311, "An Act to establish the Glen Canyon National Recreation Area in the States of

Arizona and Utah." Dated October 27, 1972. It did not change or affect Parcel B situation.

Sections 101-114, Public Law 93-493, 88 Stat. 1486 - (The Reclamation Development Act of 1974) October 27, 1974. To authorize, enlarge, and repair various Federal reclamation projects and programs, and for other purposes."

Public Land Order 5687, November 14, 1979 - Restoration of Parcel A (Page Townsite) back to Navajo Tribe at Antelope Point.

25 U.S.C. Section 2 - Duties of the Commissioner (of Indian Affairs) established general authorities of the Bureau of Indian Affairs.

C. PLANNING OBJECTIVES

The objectives of this plan are to:

- Define the mission and themes of an Antelope Point development.
- Evaluate appropriate development and management alternatives.
- Outline the appropriate management relationship between the Navajo Nation and National Park Service and their respective responsibilities during the development of the Point.
- Delineate and provide preliminary design parameters of facilities and appurtenances, including utilities.
- Provide a circulation concept including roads and trails.
- Evaluate project effects on religious ceremonial sites.
- Recommend appropriate phasing of development.
- Evaluate the social and environmental impacts of implementing the plan.
- Identify programming and funding needs for implementation.

D. PLANNING CONSTRAINTS AND ISSUES

Significant constraints and issues identified from scoping, previous planning efforts, and during preparation of the Memorandum of Agreement include:

- Concession contract relationships between the National Park Service and Navajo Concessioners.

- Need for the provision of additional economic, profitable opportunities for the Navajo Nation.

- Physical constraints of Antelope Point, particularly a relatively narrow channel, shallow soils, and a steep shoreline at low lake elevations.

- Displacement of current users.

- Overlapping management responsibility in the development area between the National Park Service and Navajo Nation, such as law enforcement.

- Current environmental impact from unregulated use of the Point.

- Need for local housing for employees of the new development.

- Need to accommodate a variety of potential users, ranging from campers to boaters to tour groups.

- Need to evaluate project's effect upon carrying capacity of the southern end of Lake Powell.

- Opportunity to educate visitors on Navajo culture and the southwest environment.

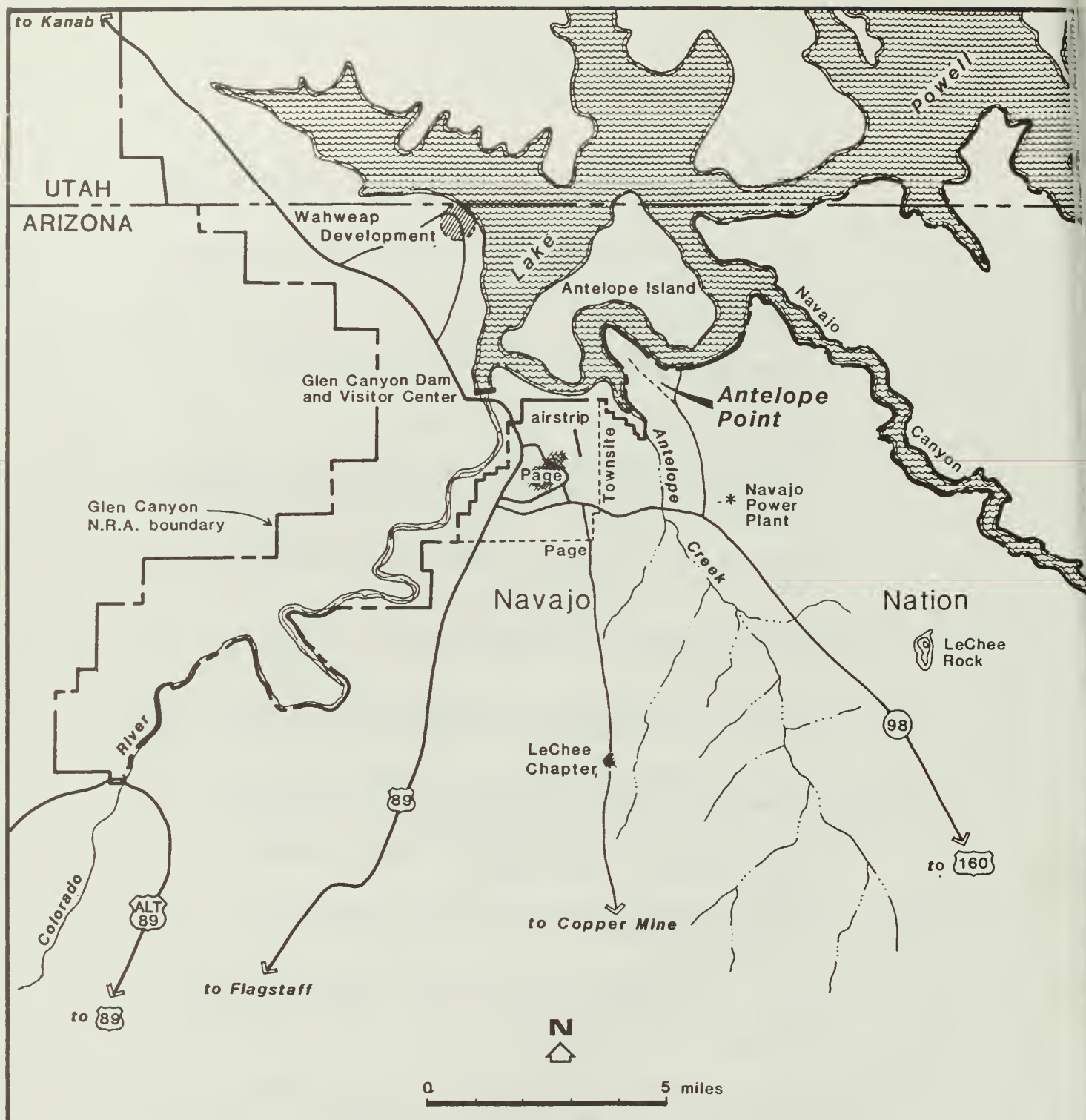
- Need to design facilities compatible with reservoir fluctuations.

- Need to preserve water craft traffic patterns in the main channel between Antelope Point and Antelope Island.

- Need to develop facilities in full compliance with applicable Federal, tribal, and State laws regarding safety, service, and environmental standards.

- The need to address that the sale of alcoholic beverages, currently prohibited on the reservation, was identified in feasibility studies as important to economic success.

- Need to assess the effect of the development on existing natural and cultural resources.



map 2

Vicinity Map

Antelope Point

Glen Canyon National Recreation Area / Navajo Nation

United States Department of the Interior – National Park Service

608 | 80,060-A
9-85 | RMRO

II. DESCRIPTION OF THE PLANNING AREA

A. GENERAL

Glen Canyon National Recreation Area and the Navajo Indian Reservation occupy a combined 17.2 million acres of northern Arizona, southeast Utah, and northwest New Mexico (Map 1). The recreation area, encompassing 1.2 million acres and administered by the National Park Service, was established to provide public outdoor recreation opportunities on Lake Powell and adjacent lands. The principal feature of the area is Lake Powell formed by the impounded Colorado River for the purpose of flood control, irrigation, and hydroelectric power generation. The Glen Canyon National Recreation Area headquarters is at Page, Arizona.

The Navajo Indian Reservation was established by treaty as the Navajo Tribal homeland in 1868. It is governed by the Navajo Tribal Council at Window Rock, Arizona, in cooperation with the U.S. Bureau of Indian Affairs. The Navajo Reservation encompasses nearly 16 million acres which are held in trust by the United States of America in three States and has a current population of approximately 187,000 persons (Navajo Tribe 1985).

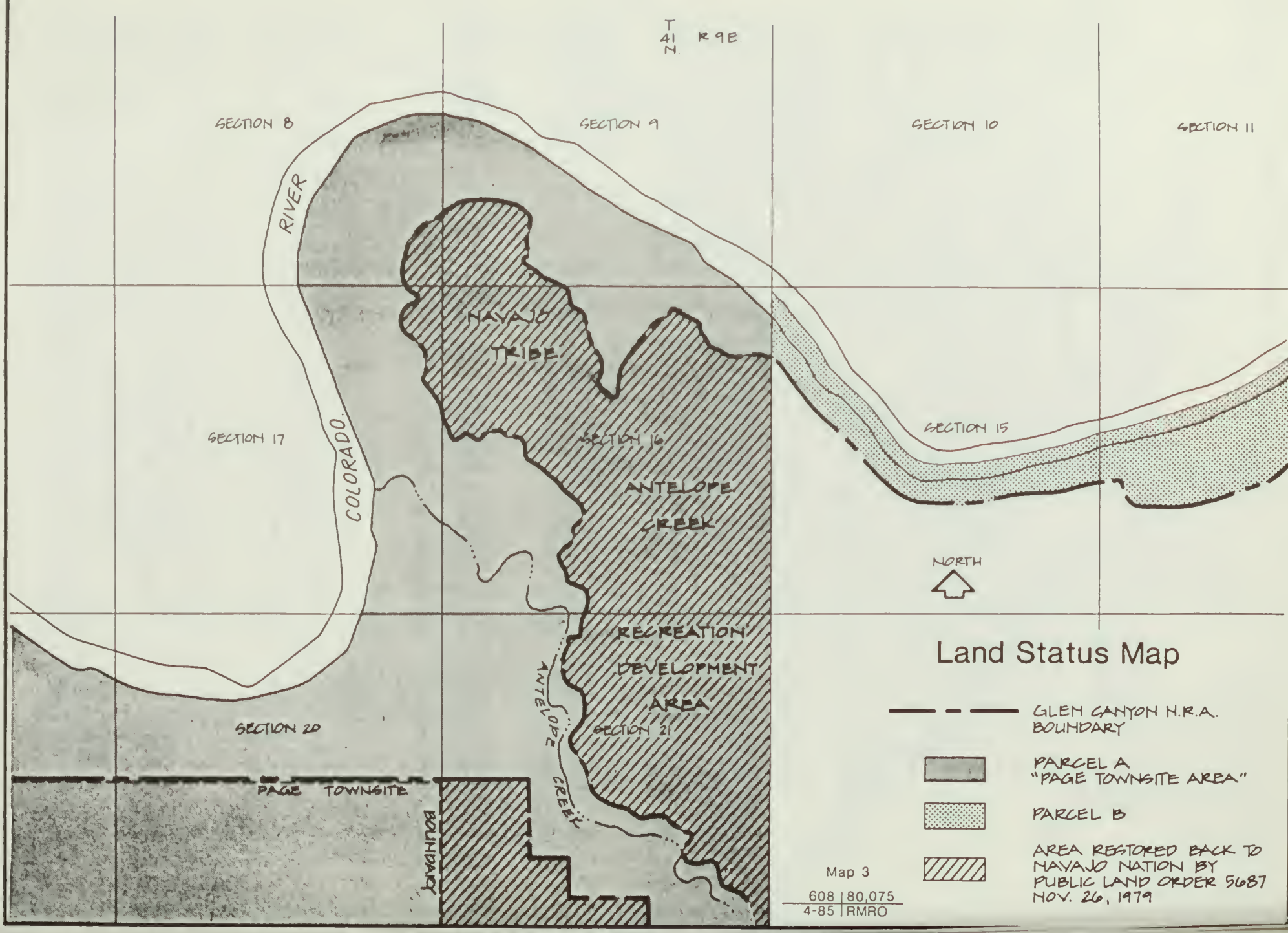
U.S. Highway 89, connecting Page and Flagstaff, Arizona, is the major north-south travel route through the Region (Map 2). State Highway 98 crosses the Navajo Reservation in an east-west direction, connecting Page with the Black Mesa--Kayenta area.

Antelope Point is on the south shore of Lake Powell, approximately 7 miles northeast of Page. Access from Page is via highway 98 and a 5-mile unimproved road maintained as needed by the Bureau of Indian Affairs.

B. LAND STATUS

The land to be used for the proposed development are principally lands held in trust by the United States for the Navajo Tribe of Indians. The shoreline areas, up to elevation 3,720 feet are part of Glen Canyon National Recreation Area (see Map 3).

In 1958, by Public Law 85-868 (72 Stat. 1686), the Antelope Point area was withdrawn from the Navajo Reservation for the purposes of the Colorado River Storage Project. The Navajo Nation was compensated by a land exchange in the Aneth Strip, Utah. Antelope Point, together with the Page townsite, is part of the land described as "Parcel A" in the withdrawal act. North and east of Antelope Point the withdrawal included lands east to Goosenecks State Park from the old reservation boundary (Colorado River center line) to


T 41 N R 9E
SECTION 8
SECTION 9
SECTION 10
SECTION 11
SECTION 15
SECTION 16
SECTION 17
SECTION 20
SECTION 21
COLORADO RIVER
NAVAJO TRIBE
ANTELOPE CREEK
RECREATION DEVELOPMENT AREA
ANTELOPE CREEK
PAGE TOWNSITE BOUNDARY
PAGE TOWNSITE
NORTH
Land Status Map
GLEN CANYON N.R.A. BOUNDARY
PARCEL A "PAGE TOWNSITE AREA"
PARCEL B
AREA RESTORED BACK TO NAVAJO NATION BY PUBLIC LAND ORDER 5687 NOV. 26, 1979
Map 3
608 | 80,075
4-85 | RMRO

the "contour line the elevation of which is 3,720 feet above mean sea level." This second portion is called "Parcel B." The Navajo Nation retains certain rights on Parcels A and B, principally mineral rights (refer to Map 3 and Figure 1).

The above parcels of land were transferred from the U.S. Bureau of Reclamation to the National Park Service in 1972 with creation of Glen Canyon National Recreation Area (Public Law 92-593). The description of Parcels A and B were not changed by this act.

In 1974, Public Law 93-493 transferred the Page townsite from the U.S. Bureau of Reclamation and permitted its incorporation. This same act authorized the transfer of Antelope Point Parcel A lands lying above 3,720 back to the Navajo Nation. Parcel A lands below 3,720 were to be treated as Parcel B lands. This action was accomplished by Public Land Order 5687.

C. PROJECT AREA BASE MAPPING

During this project, an orthotopographic set of maps were prepared for the development concept plan and the design and construction phases. A flight line containing five exposures at a vertical scale of 1 inch = 1200 feet was used in preparing the base map for the development concept plan at the horizontal scale of 1 inch = 400 feet.

Two other flight lines containing six exposures each at a vertical scale of 1 inch = 600 feet can be used in the subsequent design and construction phases. A request by the responsible designers will need to be made to Delta Aerial Surveys, Inc., of Denver, Colorado, for the acquisition of appropriate horizontal scale base materials.

The Division of Park Planning of the National Park Service, Rocky Mountain Regional Office, was the primary contract coordinator during the orthotopographic phase.

D. CLIMATE

Antelope Point is in a region enjoying a relatively mild southwestern climate conducive to long visitor seasons. March to October is pleasant for most outdoor activities.

Precipitation is irregular, averaging about 7 inches (17.8 cm) per year with a range of 2.5 to 10 inches. Most precipitation is rain, falling in a two season pattern--late summer thundershowers and cool winter rains or snow. The thundershowers are a significant planning variable because they cause high surface runoff and flash floods in desert drainages and can lead to hazardous boating conditions on Lake Powell.

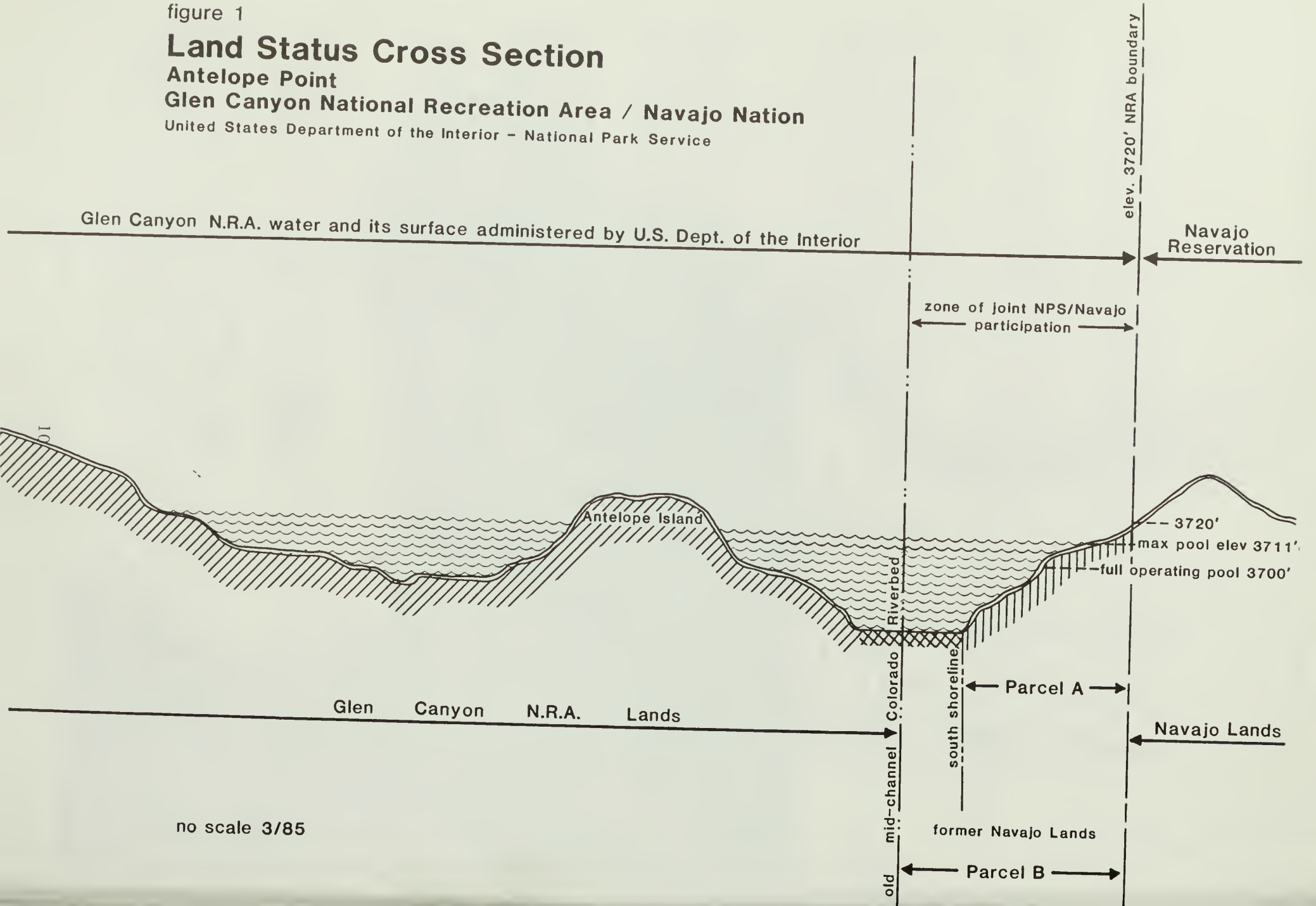
figure 1

Land Status Cross Section

Antelope Point

Glen Canyon National Recreation Area / Navajo Nation

United States Department of the Interior – National Park Service



Strong, gusty, southerly winds are common from June through September, particularly in the afternoon, while light breezes are frequent between February and May.

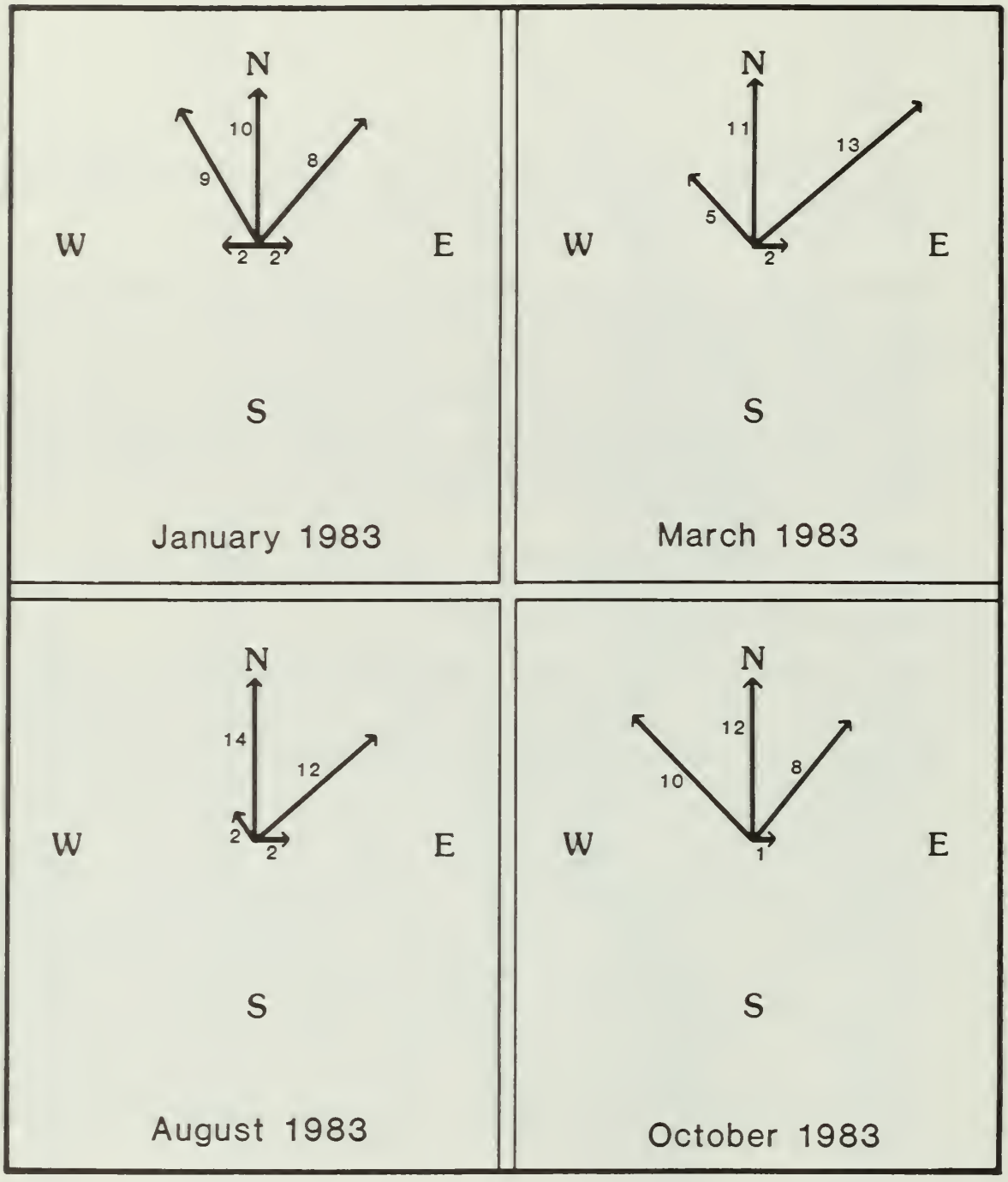
Summer temperatures are high, average July maximums being 95 to 97 degrees Fahrenheit. The record high is 115 degrees Fahrenheit at Wahweap. The average winter minimum is 24 degrees Fahrenheit with a record low of -4 degrees Fahrenheit. The diurnal temperature ranges are significant; a 30-degree range is common. The effect of intense sun in the open during summer is amplified by reflection from light-colored soils and water surfaces. Natural shade is practically nonexistent at Antelope Point.

Surface water temperature of the lake varies from approximately 79 degrees Fahrenheit in July to a low of 44 degrees Fahrenheit in January.

Wind patterns in the lower Lake Powell area are monitored by the Salt River Project in Page, Arizona. Average daily anemometer data for 4 months of one year--January, March, August, and October 1983--are presented in Figure 2. The 1-hour maximum winds ranged from 1.9 to 9.0 miles per hour for January, 3.0 to 14.3 miles per hour for March, 3.1 to 8.5 miles per hour for August, and 2.5 to 11.7 miles per hour for October. Prevailing winds were from the south for each of the months evaluated. South winds were followed in frequency by winds from the southwest and southeast indicating a marked tendency for southerly winds in this area. The strong storm winds originate from the northwest during the early spring (maximum hourly average wind speed for March 1983 was 29.6 miles per hour) and are variable in direction during the summer storm events (maximum hourly average wind speed for August 1983 was 25.1 miles per hour). Wind directions and velocity will need continued monitoring and should be verified during marina design.

E. AIR QUALITY

Analysis of the air quality of the Lake Powell region began in 1972 with a study of background data, which indicated local air quality is excellent, especially in comparison with metropolitan areas (Walther et al 1977). The average visibility in the Lake Powell region is about 200 km (124 miles). Nevertheless, additional monitoring data published in 1977 documented periods of reduced visibility.



* The number shown represents days per month.

Adapted from data provided by the Navajo Generating Station, Page, Arizona.

figure 2

Average Daily Directional Wind Frequency

Page, Arizona

Antelope Point is 7 miles northeast of Page, Arizona, an area identified as a rural industrial area for Total Suspended Particulates (TSP) due to (1) violations of the TSP standards, and (2) the area contains major industrial development. TSP monitoring data indicated violations of the National Ambient Air Quality Standards for particulates in 1976 and 1977, apparently due to construction activity at the time. Page is presently classified as an attainment area for all regulated air pollutants including particulates.

F. PHYSIOGRAPHY

The Antelope Point study area covers about 710 acres plus the 85 acre road corridor from State Route 98 and 5 acres for the visitor contact facility. It contains irregular surface features resulting from the weathering of upper Navajo sandstone. Total relief on the point is 150 feet when the lake is at its highest level. Weathering of the Navajo sandstone has resulted in scenic domes and low hills, accentuated by crossbedding patterns. In the southern part of the study area, and along the western edge of the point, crossbedded strata have been weathered by differential erosion into rugged looking, but physically delicate patterns of miniature ridges and grooves occurring at a variety of angles to each other. These patterns provide a highly scenic and rustic looking backdrop for the entire area.

The highest spot on the point, a knoll, is a remnant Pleistocene alluvial deposit of sand, gravel, and clay that was a former channel of the Colorado River before the last major canyon cutting cycle took place. The north side of this knoll has a relatively steep slope, in excess of 25 percent, and is somewhat unstable. Gravel from the alluvial deposit frequently rolls down the slope, and soil erosion is accentuated by vehicle activity on several trails that cross the slope.

According to Potter and Pattison (1977), the most common surface landform found along the Antelope Point shoreline is "shelfy terrace." This landform is common in the lower end of Lake Powell where the surface rock is finely crossbedded with alternate hard and soft layers. These erode into projecting shelves tilted at different angles due to the crossbedding patterns. The entire east side of Antelope Point is of this nature, excepting a 300-foot section of sandy beach on the south side of the proposed marina site, and a cliff face about 2,000 feet southeast of the marina. The north side of the point consists of sandy beach alternating with Pleistocene alluvium, and the west side is

entirely composed of shelfy terrace alternating with cliff faces. The terraces, cliffs, and sandy beaches of the lakeshore, in combination with the intricately weathered Navajo sandstone give Antelope Point a scenic and wild appearance which has attracted people to the site for many years. Because the point has received heavy and unregulated use for an extended period of time, windblown trash has accumulated all over the point, and vehicle tracks have begun to proliferate, marring the scenic attributes of the area. In addition, the gravel deposit at the top of the point has been partially mined, leaving a small open pit scar of approximately 5 acres.

G. GEOLOGY

At Antelope Point the bedrock is composed of Navajo sandstone (Map 4), which is one of the most conspicuous formations in the lower Glen Canyon area, and on the Navajo Indian Reservation (Harshbarger et al, 1957). The Carmel formation, consisting of deep reddish sandstone and siltstone, is visible just 1 mile north on Antelope Island. Although no rocks belonging to the Carmel formation were found on Antelope Point, this provides evidence that Antelope Point rocks are of the uppermost Navajo (Malespin and Workman, 1981). In the vicinity of Antelope Point the Navajo sandstone is up to 1,400 feet thick, but only the uppermost 100 to 150 feet is exposed above the shore when the lake is at its fullest level. The rock is pale orange, pale reddish-brown to gray in color and is composed of medium to fine grained subrounded quartz grains, bonded by a weak calcareous cement (Harshbarger et al, 1957). The formation developed from ancient windblown dune deposits of late Triassic/Jurassic time (approximately 200 to 220 million years ago). It displays prominent crossbedding and typically weathers into low rounded hills and domes, with the crossbedding conspicuously etched out by differential erosion. The Navajo sandstone is absorptive, exhibits capillarity, and is highly permeable.

The uppermost 30 to 35 feet of the highest knoll on Antelope Point are Pleistocene alluvium, consisting of coarse gravel and small boulders, up to 6 inches in diameter (Potter and Pattison 1977). These deposits are streambed materials from a former channel of the Colorado River. They were formed during Pleistocene time (1 to 2 million years ago), just before the last major regional uplift lead to renewed down-cutting by the Colorado River and formation of the canyon now inundated by Lake Powell. Although the gravels are thickest at the knoll, a thin veneer of well-rounded

Legend

High water

3720' elevation

1 – Exposed bedrock (Navajo sandstone), locally covered with up to 0.5 foot of fine sand

2 – 0.5 foot to 2 feet of overburden (fine sand), locally deeper

3 – 0.5 foot to 6 feet (locally deeper) of overburden (fine sand)

4 – Alluvium (ancient river terrace) unconsolidated cobbles (up to 6 inches in diameter), gravel, and sand containing numerous clay lenses 3 to 6 feet in thickness

5 – Alluvium (ancient river terrace) partially consolidated cobbles (up to 6 inches in diameter) and gravel held together by a silty clay matrix

400 0 400 800 feet

N

SOILS MAP

Antelope Point

Glen Canyon National Recreation Area · Navajo Nation

United States Department of the Interior – National Park Service

606 | 80,086
3-85 | RMRO

Map 4

gravels and cobbles stained by desert varnish covered virtually all outcrops of Navajo sandstone in the area, and make desert pavement on many level sandy areas.

A second Pleistocene alluvial deposit is found at high lake level all along the north side of the point. This alluvium is also a remnant of an earlier channel of the Colorado River, and is composed of coarse gravel and cobbles up to 6 inches in diameter in a clay/silt matrix. Because of the clay matrix, these deposits are somewhat consolidated, in contrast to the alluvium on the knoll, which is not at all consolidated.

The Navajo sandstone is virtually devoid of fossils. No paleontological resources would be expected.

H. SOILS

Soils of Antelope Point are medium to fine grained buff to reddish-brown sands, which have been derived from weathering of the loosely cemented Navajo sandstone. They are classified as "Typic torripsamment mixed mesic" soils (U.S. Department of the Interior, undated. Bureau of Indian Affairs), denoting a sandy, undeveloped soil formed in a warm climate. These soils have little or no developed structure. Some sands weathered in place and remain in the proximity of the parent rock, while others have been windblown and redeposited, perhaps miles from their parent source. Windblown deposits of sand are most often found on the east side of the point, on east-facing slopes sheltered from the prevailing wind. The largest deposit of this kind, about 4 acres in size, is located 1,500 feet southeast of the proposed marina site. In most places, the sand is very shallow ranging in depth from a thin veneer of only a few inches to 2 or 3 feet. In local areas where windblown deposits have accumulated, depths to bedrock may be up to 10 feet. The sandy soils of the study area are highly porous, rated as very rapidly permeable, and excessively drained. The soils are severly erodable due to loose structure, aridity, and shallow depths.

With two exceptions, Antelope Point soils contain virtually no clay and would not be expected to change volume with differences in water content. Deposits of clay are found intermixed with the Pleistocene alluvium at the knoll near the north tip of the point. These occurrences of clay are found intermittently throughout this deposit in the form of lenses ranging in thickness from 3 to 6 feet. The size of the alluvial deposit is estimated to be 10 to 15 acres, and rough "eyeball" estimates of its volume made by a local sand and gravel contractor range from 200,000 to 500,000 cubic yards. Because of the highly porous nature of this alluvium

on the knoll, most precipitation, even when intense, is absorbed. However, exposure of clay lenses by mining of gravels has created localized sheet runoff, causing limited erosion into the gravels on the periphery of the exposed clay.

The second occurrence of clay is in the alluvial deposits at lake level on the north side of the point. This clay is almost silty in texture and forms the matrix of the alluvium which contains gravel and cobbles up to 6 inches in diameter. This deposit has an overall appearance of a poorly consolidated conglomerate. These soils are rated unsuitable for sustained irrigation and have severe limitations as material for foundation for roads and buildings, septic tank, and sewage lagoons--principally due to texture and shallow depths. Soil limitations for recreational use include blowing sand.

I. WATER RESOURCES

In accordance with the Colorado River Storage Project Act, the Glen Canyon Dam impounds up to 27,000,000 acre-feet of water in Lake Powell. This results in regulating flow of the Colorado River; storing water for beneficial consumptive use; allowing upper basin states to use their water allocation; and by providing for the reclamation of lands, control of floods, and generation of hydroelectric power. The normal operating elevations of the lake range between 3,490 and 3,700 feet above sea level. The minimum elevation of the reservoir is 3,370 feet (dead storage), and the maximum is 3,711 feet. The highest historical level was 3,708.34 feet, achieved in July 1983. Lake levels are highest in midsummer after receiving spring runoff from the Rocky Mountains; they are lowest in March or April of each year.

Antelope Point overlooks a narrow (approximately 2,400 feet) section of lake channel that was once the main channel of the Colorado River. Antelope Island, remnant of a mesa above Wahweap Creek is on the other side of the channel (Map 2). The point is bounded on the southwest by a narrow arm of the lake extending up Antelope Creek. The lake channel widens into a small bay on the east side of the point. This area has been investigated for its potential as a marina site. Figure 3 depicts sonar soundings taken in the bay. At full pool of the lake (3700 feet) depths of 30 to 50 feet prevail over certain portions of the bay; however, its center is limited by shallow depths, as there is apparently a submerged ridge along the trajectory of Profile 4. Beyond the narrow shelves and shallow water below the present shoreline, the lake bottom profile plunges steeply into the old canyon. Midchannel depths are 500 to 600 feet. The shoreline and bottom profiles are stable in

the planning area, as there are no major sediment sources in the vicinity. Prior to construction of any marina and launch facilities, it is recommended that there be appropriate analysis of lake wave and fetch and storm wave action.

There are no springs or other surface waters on the development site.

The access road crosses a large wash which is subject to flash flooding. There are no other known flood hazard zones in the study area. Ground water resources are unmeasured in the area, but hydrostatic pressure from the lake should provide abundant bank storage in the Navajo sandstone at shallow depths (up to higher reservoir elevations at about 3,700 feet).

The Navajo sandstone is the chief aquifer. It normally yields dependable supplies of good quality water. Wells in the general area yield up to 130 gallons per minute. A well drilled to the Navajo sandstone at 1,417-foot depth west of LeChee Rock yields an unspecified quantity of good quality water. This location is 6 miles south of Antelope Point.

J. WATER QUALITY

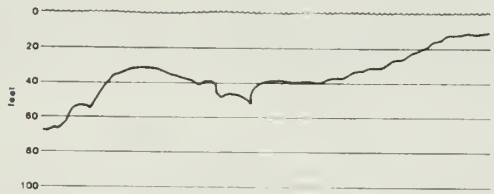
Main-channel lake waters near Antelope Point are nearly always of very high clarity and quality and would be expected to meet standards for full-body contact sports such as swimming and water-skiing. Recent (October 1984) water sample analyses from three shoreline sites around Antelope Point revealed no contamination by coliform bacteria giving preliminary indication of a healthful, clean-water condition, even following a period of high shoreline use rates. High background (noncoliform bacterial levels) in one sample indicate sufficient accumulation of organic material to support micro-organisms, and a consequent need to periodically monitor water quality.

Water from Navajo sandstone acquifers is typically of good quality, containing low levels of dissolved solids and low salts. Although there is no specific quality data on bank-storage water from Antelope Point, there should be no difficulty in locating an abundant water-supply meeting drinking-water standards or amenable to minor pretreatment to meet such standards.

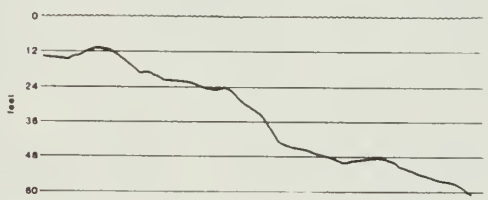
K. VEGETATION

Glen Canyon National Recreation Area is physiographically located within the Colorado Plateau and supports southern Great Basin vegetation. Benson (1981) describes this area

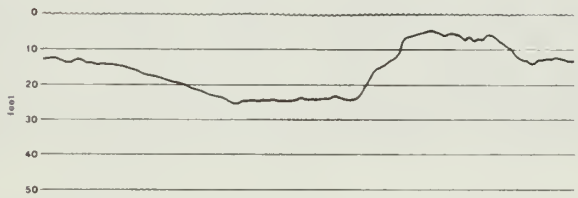
profile 1

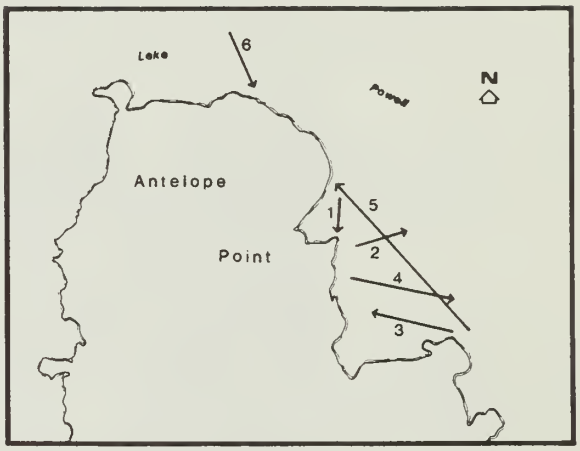


profile 2



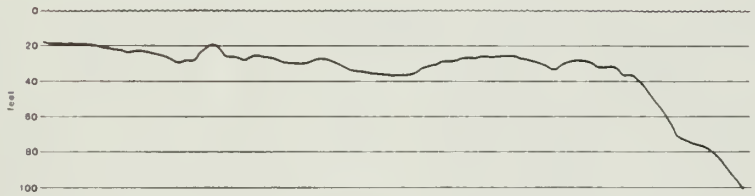
profile 3



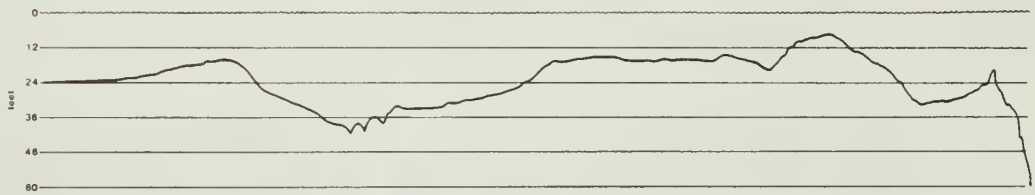


Lake Bottom Profile for Potential Launch and Marina Sites
Antelope Point
Glen Canyon National Recreation Area / Navajo Nation
United States Department of the Interior - National Park Service

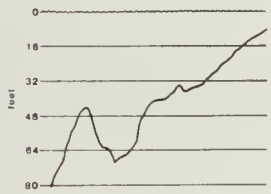
profile 4



profile 5



profile 6



* All profiles were taken at lake elevation 3690' except profile 6 - lake elevation 3682.52'.

Profiles read left to right, corresponding with arrow direction.

figure 3 608 | 80,069 3-85 | RMRO

as Navajoan Desert, a subdivision of the Great Basin Desert. Brown (1982) calls the vegetation Cold Temperate Desert. Blackbrush (Coleogyne ramosissima) and shadscale (Atriplex confertifolia) are dominant species.

Antelope Point supports a variety of shrubs and subshrubs as well as numerous grasses and ephemeral species. Species include blackbrush, Mormon tea (Ephedra torreyana), yucca (Yucca angustissima), snakeweed (Xanthocephalum microcephala), sand sagebrush (Artemisia filifolia), prickly pear (Opuntia erinacea), and Indian rice grass (Oryzopsis hymenoides). The recently established full-pool shoreline supports exotic species including tamarisk (Tamarix spp.) and Russian thistle (Salsola kali). These plants would be expected to increase near the shore in the future.

Although no quantitative vegetation data have been collected at Antelope Point, surveys have been completed on Antelope Island, 300 meters north of the project site (Malespin 1981). The total plant cover there was estimated at 6.1 percent during winter. Spring and summer cover estimates might range from 5 to 15 percent depending on the sampling period.

Two species identified at Antelope Point, Cymopteris newberryi and Encelia farinosa var vesinosa, are of limited distribution and were once candidates for "threatened" status. (House Document 94-511.) Neither species is any longer considered under review. No sensitive plant species are known to occur within, or adjacent to, the project site (USFWS 1980). Appendix B contains a list of northern Arizona plants and animals that are threatened or endangered and occupy similar habitat.

L. WILDLIFE

"Approximately 80 species of mammals, 32 species of reptiles and amphibians, and over 200 species of birds have been found in or near the Lake Powell area" (Malespin 1981). Added to this are up to 20 species of fish which thrive in the clear, clean water of the lake. The most notable of these are the game fishes, which attract many visitors to the Lake Powell region. The striped bass, rainbow trout, large-mouth bass, black crappie, walleye, bluegill, and channel catfish all contribute to the sport fishery. Shad are especially abundant, forming the food base for larger predatory fish like striped bass.

The Antelope Point site is thinly vegetated, offering limited habitat for terrestrial wildlife. It is populated by small mammals such as cottontail and jackrabbit; rodents of the kangaroo rat, deer mouse, pocket mouse, and woodrat groups; and by small reptiles such as the desert spin

lizard, side-blotched lizard, and western whiptail lizard. King snakes, gopher snakes, and several subspecies of the western rattlesnake (crotalus viridus) occur in the region. Some of these snakes probably reside on the point, since the rodent prey base exists there. Coyote may occasionally be seen and, more rarely, the ringtail cat.

Resident birds are few (the raven being most obvious), but the lake environs provide excellent opportunities for observing numerous transient and migrant species. Waterfowl such as the coot, grebes, and ducks are commonly seen, as well as a variety of land birds.

There are no known threatened or endangered faunal species resident on the point (Appendix A). Two protected raptors are resident or transient in the Glen Canyon environs, however. They may be seen in flight. The peregrine falcon (Falco peregrinus anatum) nests in high cliffs near Lake Powell. The bald eagle (Haliaeetus leucocephalus) is a winter resident in the region and is occasionally sighted over lower Lake Powell. Neither bird has been recorded in residence on or near Antelope Point.

M. ANTELOPE ISLAND

Antelope Island which is in Glen Canyon National Recreation Area lies only 2,400 feet across a narrow channel of the lake (once the canyon of the Colorado River) from the point. Designated a Research Natural Area by the National Park Service in 1975, the 9,000-acre island is managed for preservation in its natural state. No motorized vehicles or constructed facilities are permitted. Isolated from the mainland by rising Lake Powell in 1973, the island is considered ideal for research on the behavior of natural island populations of wildlife and vegetation. Existing uses are recreation and open space.

N. CULTURAL RESOURCES

Cultural resources are prominent in the Glen Canyon region and were a significant factor in the establishment of the national recreation area. The following discussion is an excerpt from a 1984 survey of the archeological and historical resources at Antelope Point performed by the Navajo Nation (Benallie and Gilpin 1985, Case File Number EVP4-1 BIANAONTM - 85-062).

> Archaic Native American sites (6500 BC - AD 1) represent the oldest cultural period which has been identified in the Glen Canyon area. The Native Americans at this time practiced a hunting and gathering lifestyle. Several of the identified Archaic sites have been carbon dated to

800 BC. A burial near Rock Creek was carbon dated 2420 BP (Jennings 1966). Occupation during the Archaic period seems to be fairly well represented and established by previous work in the area, but, this period is not completely understood.

The presence of Basketmaker II sites (AD 1 - AD 450) was disputed in the region until several sites were carbon dated to AD 250. ALthough there is evidence of Basketmaker II sites in the region, there has been no real comprehensive work to identify and report on these Basketmaker II sites.

Basketmaker III sites (AD 450 - AD 700) have not yet been found in the Glen Canyon region.

Pueblo I (AD 700 - AD 900) sites are much like Basketmaker II and III sites in the area, in that they are not well presented. There seems to be very sporadic occupation in the Glen Canyon region from the end of the Archaic to the Pueblo I times. During the Pueblo II and III (AD 900 - AD 1100 and AD 1100 - AD 1300) period, the occupation of the area reached its peak. Sites in the area are represented by cliff dwellings situated in side canyons. This area was primarily the best area for horticulture (Jennings 1966). Jennings considers these Native American peoples to be related to the Kayenta Anasazi. At the end of the Pueblo III period, the area had been abandoned.

Several groups occupied the area after the Anasazi. The Navajo moved into the area after establishing a homeland to the east (Jennings 1966). Paiutes and Shoshone Indians are believed to have occupied the area as well. Because of the Nomadic lifestyles of these three groups, little archeological remains have been found to positively document their presence during these early times (Post-1300).

During the Anglo-contact period, better records of the Native American Groups present in the area were established. The most famous Anglo to come during the contact period was Major John Wesley Powell. He provided a detailed report about the Native American in the area. Before and after Major Powell various pioneers, schoolmarms, and prospectors have come and gone, leaving their imprint in the Glen Canyon area.

During the survey of the proposed 710-acre project area, 11 sites containing archeological artifacts, and 2 Navajo

ceremonial sites that are still in use were recorded. The archeological materials found consisted mainly of lithic fragments, flakes, and point fragments of either unknown age or the Archaic and Basket Maker II periods. A large area near the end of Antelope Point, where the surface materials are dominated by alluvial gravels, was found to be a source of raw materials for tools and weapons (chert, quartzite, and chalcedony). One site contained tools of archaic age and is believed a potential long-term occupation site.

Taken as a whole, the Antelope Point archeological sites seem to "offer a possibility of filling in gaps in the chronology of the Glen Canyon area."

The recent cultural history of the Antelope Point area was also examined in the 1985 Benallie and Gilpin report. In brief, the region has been occupied by Navajos continuously since the 1850s. It was first included as part of the Navajo Reservation in 1884 but was deleted and readded several times for various reasons. The area has traditionally been used as winter and spring livestock range.

Another aspect of Antelope Point's cultural significance is its traditional and current continued use as a location for ceremonial rites. Accessibility, sandy beaches, and seclusion are the reasons Antelope Point is used for this purpose.

A third aspect of Antelope Point's history is also significant to the possible themes and motifs which may be devised for developments there. "Antelope were once present in substantial numbers and used Antelope Creek for access to the Colorado River where they watered," (Benallie and Gilpin 1985). Although the point was never called "Antelope Point" by the Navajos, the animals were hunted in the area and some of the practices used and incidents which occurred are still remembered.

O. SOCIOECONOMICS

The area surrounding Antelope Point--which includes the City of Page, the LeChee Chapter, and other chapters of the Navajo Nation--is one of the fastest growing sections of northern Arizona in terms of population. Between 1973 and 1983, the population of Coconino County (in which Antelope Point is situated) increased by 32.3 percent. A major factor contributing to this growth is increased recreation and tourism in the Lake Powell country.

The average rate of population growth on the Navajo Reservation is 2.15 percent per year. The largest

population center in the area under discussion is the nearby City of Page. Other residents are scattered in small, rural nonfarm communities of the LeChee, Navajo Mountain, Kaibeto, Coppermine, and Bodaway Chapters of the Navajo Reservation. Most of the population of the five chapters are Navajo. Approximately 25 percent of Coconino County is Indian.

In 1985, the estimated population of Page was 6,200. The five Navajo Nation Chapters surrounding Antelope Point had a combined estimated population of 4,978 in 1984. The following Table 1 outlines the 1984 population estimates, which are based on the 1980 Census, and projections for the years 1985 to 1993 for Coconino County, Page, and the five previously mentioned Navajo Nation Chapters.

Navajo People have a matrilineal clanship that is an influencing factor in the establishment and interrelationships of a community and the Navajo Nation as a whole. The communities are developed subsequent to the early traditional land uses of members of a family and their relatives. This group of people is referred to as an extended family by anthropologists, but to the Navajo they say "shi K'ai" which means my family. For this critical point, it has been determined that there are 109 different communities or chapters. LeChee, Navajo Mountain, Kaibeto, Bodaway, and Coppermine are examples of these communities. Each chapter elects a delegate who represents their people at the Navajo Tribal Council.

TABLE 1

Population Projections for the Antelope Point Area

	1984	1985	1986	1987	1988
Coconino County	82,400	84,300	86,800	90,000	93,900
Page	5,725	6,000	6,210	6,490	6,840
LeChee	1,162	1,187	1,212	1,239	1,265
Coppermine	749	765	782	798	816
Kaibeto	1,075	1,098	1,122	1,146	1,170
Bodaway	1,381	1,411	1,441	1,472	1,504
Navajo Mountain	611	624	638	651	665

	1989	1990	1991	1992	1993
Coconino County	97,400	100,300	103,700	106,600	109,400
Page	7,150	7,395	7,690	7,935	8,170
LeChee	1,292	1,320	1,349	1,378	1,407
Coppermine	833	851	869	888	907
Kaibeto	1,196	1,221	1,248	1,274	1,302
Bodaway	1,536	1,569	1,603	1,637	1,672
Navajo Mountain	680	694	709	724	740

Sources: Navajo Nation Overall Economic Development Plan 1985-86 and Arizona Department of Economic Security. Projections are based on the 1980 U.S. Census.

Added to the permanent population of Page is the temporary population of visitors, which is estimated to reach over 4,300 persons on a summer weekend. Of this total, approximately 30 percent stay in motels and the rest stay in campgrounds, trailer parks, and second homes.

Northern Arizona is less developed economically than many parts of the State. The regional economy is largely tied to tourism, government activity, and electric power generation. The four economic sectors of transportation/communication/utilities, wholesale and retail trade, services, and government accounted for 86 percent of total employment in the region in 1984.

The major employers include the Navajo Generating Station, Del Webb Corporation, Page Public School System, and the National Park Service. Table 2 indicates employment by economic sector in the area (table extracted from the Page General Plan, 1983).

In 1982, total full-time employment in the Antelope area was estimated to be 2,542. Approximately one-third of the full-time employment in both the wholesale and retail trade and services sectors was attributable to tourism. Navajos living on the Navajo Reservation accounted for 7 percent of the total full-time employment.

Table 2

Coconino County
1984 Employment and Percent Distribution

Economic Sector	Employment Number	Percent Distributi
Agriculture	--	--
Mining	50	.1
Manufacturing	2,625	8.5
Construction	1,125	3.7
Transportation/Communication/Utilities	2,225	7.3
Wholesale and Retail Trade	7,150	23.3
Finance/Insurance/Real Estate	600	2.0
Services	7,975	26.0
Government	8,925	29.1
TOTAL	30,675	100.0

Source: Arizona Statistical Review, September 1984, by Valley National Bank of Arizona.

Table 3 outlines the per capita income recorded by the 1980 Census for counties of the Four Corners region.

Table 3

Income Date

State/County/Nation	1980 Per Capita Income
Arizona	$7,011
Apache	3,338
Coconino	5,651
Navajo	4,485
New Mexico	6,119
McKinley	4,196
San Juan	5,814
Utah	6,305
San Juan	3,701
Colorado	7,998
La Plata	8,800
Montezuma	8,573
Navajo Nation	2,414

Source: 1980 U.S. Census

Other important income figures recorded by the 1980 U.S. Census for Coconino County and the Navajo Nation include:

1980	Median Family Income	
	Coconino County	$18,156
	Navajo Nation	$ 9,079
1980	Median Household Income	
	Coconino County	$15,962
	Navajo Nation	$ 8,342

Total units in Page per the 1980 U.S. Census are 1,782. This consists of 814 single family units and 968 multiple family units. Vacancy rates for rental units become high during the off-season months of November to April. (1980 U.S. Census of Population and Housing, General Housing Characteristics, HC 80-1-A4 Table 1.)

Housing on the Navajo Reservation consists primarily of single family units and hogans scattered over rural areas. Many of these homes are still without such conveniences as electricity and an indoor water source. The estimated number of homes in Coppermine 159, in Kaibeto 228, in Bodaway 294, in Navajo Mountain 130, and in LeChee 223--a total of 1,034 for the five chapters in the Antelope Point

area. Additional data for the LeChee Chapter is given in the next section.

Presently, the City of Page has adequate public facilities and community services to serve its population, but these will need to keep pace with growth projections. Additional fire stations, a school, and a larger airport are among the facilities projected as future needs.

The Navajo Nation provides various social services to its population. Social services offered locally to the chapters include police protection and various assistance programs (general assistance, low income home energy assistance, and work experience projects). Residents of the five local chapters may travel either to Tuba City or Kayenta to receive medical/health services from the Indian Health Service. Educational services are provided by the Bureau of Indian Affairs in surrounding communities and by public schools in Page. Other social services are available locally or must be sought by the local Navajo residents in either Tuba City or Kayenta.

On the Navajo Reservation, land cannot be sold because the United States Government holds most of the reservation land in trust for the Navajo Tribe. Presently, the only local finances that exist for the Navajo Nation Chapters are through revenue sharing funds, land claim settlement funds, and whatever capital improvement project funds are allocated by the tribal or United States Government.

P. THE LECHEE CHAPTER

LeChee Chapter is comprised of (1) a community, also named LeChee, which is located 4 miles south of the City of Page, off Highway 20 (Coppermine Road), and (2) a grazing-unit area which is bordered by the City of Page, Lake Powell, the Colorado River, and the Kaibeto and Coppermine Chapters of the Navajo Nation.

Before the 1950's, a vast majority of the Chapter residents lived in the rural, grazing area of the Kaibeto and Antelope Plateaus; they subsisted solely on the livestock economy in the form of trading and selling at the Kaibeto and Coppermine Trading Posts. The construction of the Glen Canyon Dam (1956-1963) and the inception of the City of Page (1957) attracted a few of the rural families who were seeking employment; most of these families settled on a plateau south of Page, just outside the Page-Navajo Reservation boundary line. By 1962, several private housing units crept up randomly in the area; a Chapter house was also constructed and dedicated in 1962 and this settlement

was recognized as the community of LeChee in 1963. This led to the infrastructural development for the community, the most significant of which was a water-purchase agreement between the Navajo Tribe and the City of Page in 1969; a water transmission line and the distribution systems were constructed the following year.

Then in 1975, 45 federally subsidized housing units were built in the community. This coincided with the construction of the power plant (1970-1976), Navajo Generating Station which is located 6 miles northeast of the community. Today the Chapter has a population of 1,244. The community claims 989 residents and 187 homes while the grazing-unit area claims 144 residents and 36 homes.

The Chapter faces major problems stemming from a rapid growth rate, which are:

(1) Homesite and business site lease disputes; three of these are in litigation at this time.

(2) Insufficient and inadequate infrastructural facilities such as housing, roads, water, and so forth.

(3) Limited services and facilities for all segments of the Chapter population.

(4) Trespassing and settling of non-Chapter residents on local grazing unit areas without approval.

The Chapter has also proposed economic and community development projects within the last 3 years which could benefit the local community members as well as residents from adjoining chapters, such as; housing units, retail service outlets, a multipurpose building, a livestock boarding and marketing program, an agricultural project, and a training job center.

LeChee Chapter has requested that a comprehensive planning effort be initiated to achieve an orderly growth pattern and resolve some of its current problems.

Q. RECREATION

Glen Canyon National Recreation Area is an increasingly popular destination for recreationists attracted by the year-long availability of outdoor activities. Boating, river-running, camping, fishing, and package tours are the most popular activities. Back-country camping, backpacking,

and day hiking activities also attract a significant number of visitors.

Wahweap Marina, the Visitor Center at Glen Canyon Dam near Page, and Lees Ferry are the principal developed areas serving visitors at the southern end of the recreation area. Wahweap is the focal point for visitors using the lake, and is the developed area most similar in location and site characteristics to Antelope Point. Wahweap also serves a segment of the visiting public similar to that expected to be interested in a development at Antelope Point.

The majority of activity at Wahweap is based on boating. However, many visitors arrive to stay or eat in the lodge, camp, fish, picnic, and sightsee. Boating visitors are comprised of those who bring their own boats, those who rent houseboats and small boats, and those who store their boats in rental slips, at buoys, or in dry boat storage. Many visitors also take advantage of boat tours. Boating has increased an average of 7 percent annually from 1975 to 1980. Observations made in August 1980 indicate that an average of about 400 boats are launched and retrieved daily at the Wahweap ramp (200 put-ins and 200 take-outs; the State Line launch ramp was closed during the observation period due to high water). These include private boats towed to Wahweap, boats launched from dry boat storage, and private boats to be towed behind rental houseboats. The capacity of Wahweap launch ramp and its associated downlake launch points as compared with the projected Antelope Point launch capacities is shown in Table 6. This table is in the Environmental Consequences section of this document.

The National Park Service campground at Wahweap has shown fluctuating occupancy since 1975. Peak years were recorded in 1977 and 1978. The campground is usually full throughout the peak season and use in the overflow loop may average 30 to 40 occupied sites daily.

The concession recreational vehicle (RV) camp contains 120 sites. At peak times, 100 to 110 sites will be occupied on the average. These visitors have access to the concession store and shower facilities.

Wahweap Lodge presently contains 272 rooms and occupancy is over 90 percent of capacity throughout the peak season. Generally 30 to 40 percent of lodge visitors are bus tour passengers.

Overall visitation to the recreation area has increased steadily since its inception (Figure 4/Table 4). Previous planning documents (National Park Service 1982) have predicted a continued moderate growth in visitation (2.5 to 5 percent annually) for the recreation area as a whole. Although a planned expansion of facilities at Wahweap should relieve congestion at that locality, the likely result of the trends discussed above should be a ready pool of visitors for a development at Antelope Point.

Visitation statistics at Antelope Point have not been collected on a formal basis although the area is known to be one of the most heavily used, undeveloped shoreline areas on Lake Powell. On a single day in August 1984, an estimated 200 to 300 people were observed in the planning area distributed among more than 30 shoreline sites. Periodic winter counts have yielded averages of less than one visitor per day during the coldest weather. The dominant recreational activities are shoreline camping in recreational vehicles and campers, boating, off-road vehicle use (particularly all-terrain cycles), water-skiing, swimming, bank fishing, and sunbathing. Group camping appears to be common during summer. Camping along the shoreline is currently limited to 2 weeks' duration under National Park Service regulations. No developed camping facilities are available on the site now.

Recreational usage at Antelope Point is presently unregulated except for law enforcement. This situation has resulted in a relatively high level of environmental impacts. Particularly noticeable in some areas is contamination by human waste and trash. Negative comments on these factors were frequent during public "scoping," so there is evidently some detraction from the quality of the recreational experience even though usage remains high.

An additional aspect of site conditions is widespread trailing resulting from the unrestricted use of off-road vehicles. Trails exist virtually everywhere on the land surface, although the shallow soil mantle and limited surface area on the point has prevented extensive erosion from developing in most localities.

Favorable comments on the existing recreational environment were received during scoping from visitors who favor unrestricted use, especially the availability of camping on the lake shoreline in any accessible locale around the margin of the point. Antelope Point is one of very few undeveloped sites on Lake Powell with road access to the lakeshore and near a highway system.

Table 4

Glen Canyon National Recreation Area Visitor Statistics

		1982	1983	1984
Total Annual Visitation (Persons)		1,826,572	1,975,273	2,051,642
Summer Visitation to Wahweap (combined totals for June, July, and August)		640,841	604,693	626,484
Total Boat Days, Wahweap				
	June	11,774	11,518	21,278
	July	12,617	11,825	21,509
	August	13,900	10,980	24,338
Campground overnight stays, Wahweap				
	June	30,004	30,171	32,503
	July	36,914	36,651	32,664
	August	35,334	36,511	33,294

[1] Institution of a new system of counting single-day boat use and the addition of State-Line ramp doubled this statistic for 1984.

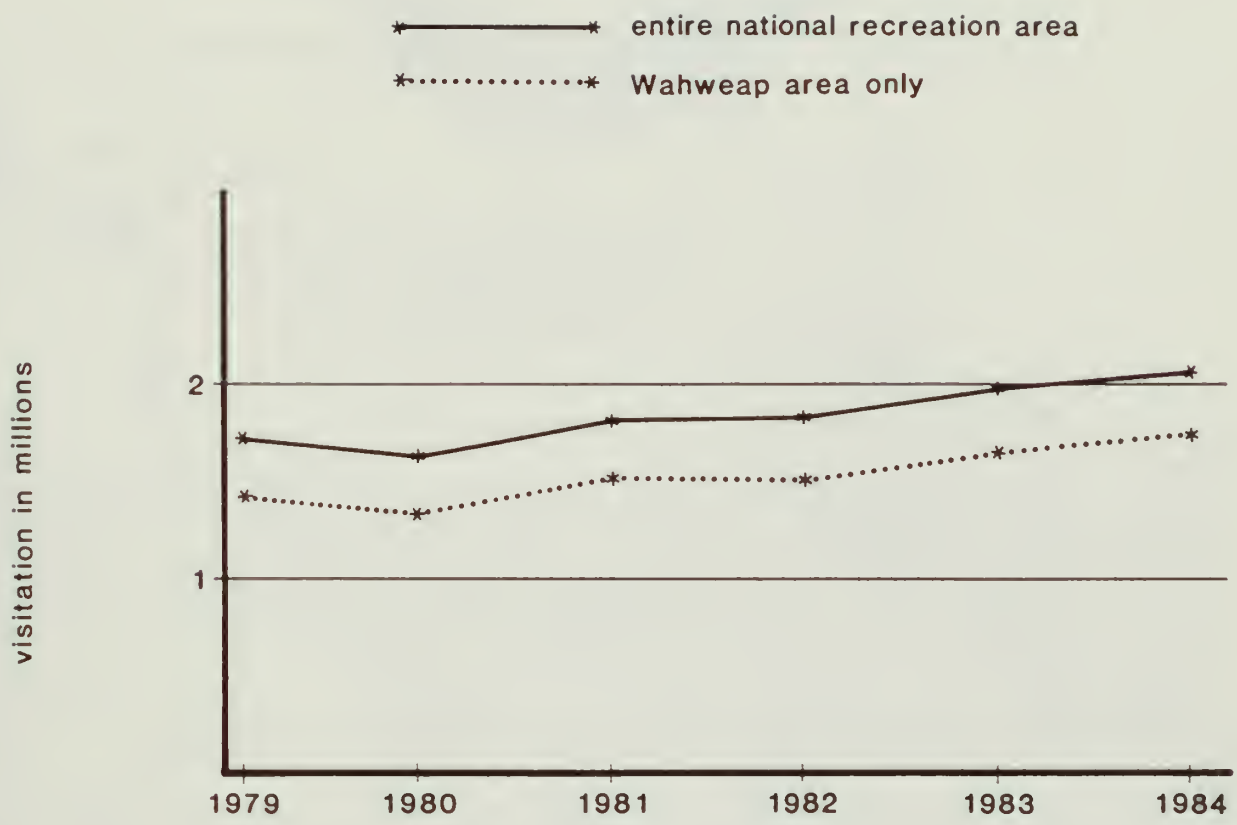


figure 4

Annual Visitation 1979-1984

Glen Canyon National Recreation Area

United States Department of the Interior - National Park Service

R. LAND USE

Land uses in the Antelope Point area include the following (in addition to undedicated open space):

- Navajo tribal park
- Recreation
- Camping
- Navajo Generating Station water intake facility
- Residences including temporary dry camp
- Traditional Navajo religious ceremonies
- Grazing and livestock water access
- Gravel pit.

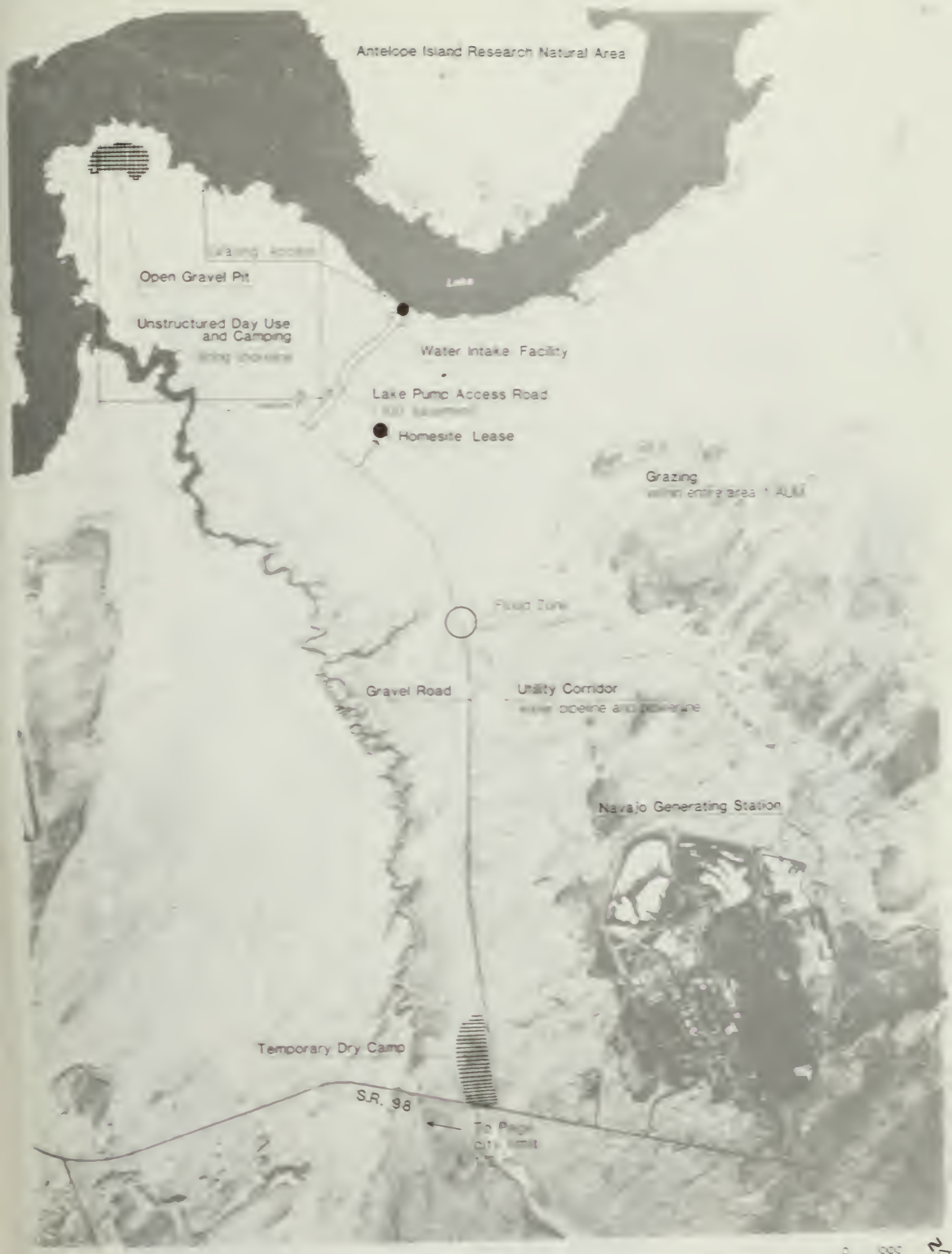
Existing land uses are shown on Map 5.

Reservation lands bordering Lake Powell are included within an established but undeveloped Tribal Park. No lands have as yet been withdrawn for the park. A similar, developed tribal park at Monument Valley has recorded an average annual visitation of 100,000 persons indicating significant recreational demand on the Reservation.

Recreational day use and camping at Antelope Point are discussed in the preceding section on recreation.

The Salt River Project operates a water intake facility east of the project area which supplies water to the Navajo Generating Station. The facility is powered by electrical pumps. A leased utility corridor exists between the intake station and power plant. The project maintains an improved access road from State Highway 98 to the intake facility. Four miles of this road is also the access route to Antelope Point. Access to the pump station will continue to be required along this road.

One permanent residence on a tribal homesite lease has been established approximately 1.5 miles south of Antelope Point. The homesite evidently does not overlap any of the project area. At the junction of State Highway 98 and the Antelope Point Road, LeChee Chapter of the Navajo Tribe set aside an area of approximately 3 acres where construction workers can park their trailers and live. This area is not considered a permanent site for residences and is called a "dry camp."



EXISTING CONDITIONS

Antelope Point

Glen Canyon National Recreation Area / Navajo Nation

SITE ANALYSIS

Antelope Point

Glen Canyon National Recreation Area / Navajo Nation

United States Department of the Interior - National Park Service

608 | 80,065-A
9-85 | RMRO

Map 6

Use of Antelope Point for traditional ceremonies is discussed in the Cultural Resources section.

Livestock grazing (sheep, cattle) has been a traditional use of this region since the last century. The range is poor at Antelope Point; however, it is valued chiefly for its access to water. Antelope Point is part of a range class rated as requiring 460 acres to support a single animal all year. The area is grazed year-round by cattle utilized by four families.

A location at the tip of Antelope Point and well above elevation 3,720 feet has been previously used as a source of gravel during construction. This has been described earlier in the section on geology.

III. THE PROPOSAL

The proposal is to develop a commercial marina and associated facilities at Antelope Point. Services which would be provided at the site include:

- Boat rentals
- Boat tours
- Lodging
- Public boat launching
- Public day-use beaches
- Camping
- Interpretation of area resources for the visitor
- Sale of commercial goods
- Dining
- Fuel
- Boat storage
- Public safety.

The proposal is believed responsive to an existing demand for services and addresses the planning objectives outlined in Part I. It has been designed to take full advantage of the many cultural and natural resources of the planning area.

Feasible alternatives to the proposal, which are also generally responsive to the planning objectives, are being considered and are described in the section following the below descriptions of the proposal.

A. GENERAL DESCRIPTION

The proposed action involves a larger and more dispersed resort complex and marina than the other development alternatives.

Principal features of The Proposal are as follows. See accompanying Map 7 for facility locations.

A 200-225 unit lodge with restaurant and lounge, meeting rooms, grill/coffee shop, 25-meter swimming pool, health club, tennis courts, a 250-car parking lot, a day use beach area with picnic shelters, and a tour boat dock.

A cultural center with artist studios and retail craft sales and 150-car paved parking lot with provision for bus parking will be provided close to the lodge facility.

A 250-300 slip marina with some covered slips will be constructed in a bay along the northeast portion of the point. This will include a courtesy dock, boat fuel sales, parking, and a boat pump-out station.

A marina store and other associated retail shops would be provided adjacent to the marina.

Boat rental office and 100-car paved parking lot.

Maintenance area.

Dry boat storage area.

Picnic area and overlook constructed at the tip of Antelope Point above the day-use area.

Pedestrian trails linking lodge and cultural center with marina and day-use beach area.

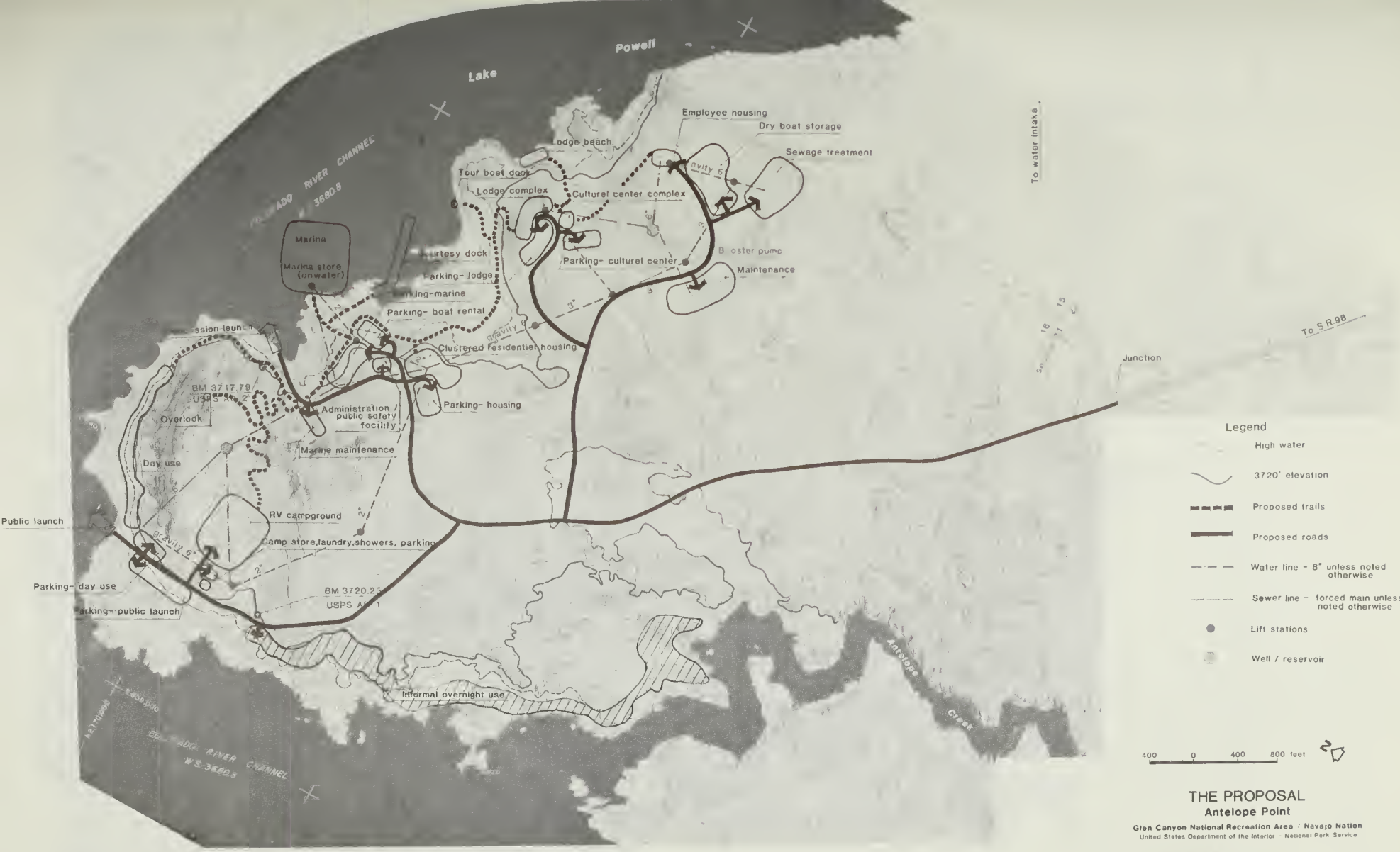
Informal camping area with toilets and refuse collection.

RV campground with full utility hookups, camp store, and laundry.

A public launch ramp--located at the north end of Antelope Point--will include a courtesy dock, a 300 double space paved parking area, and a day-use beach area with toilets and picnic shelters.

Information center for Navajoland and Antelope Point at State Highway 98 intersection with Antelope Point Road (BIA RT. 228).

Employee housing area with both seasonal and year-round facilities.



THE PROPOSAL

Antelope Point

Glen Canyon National Recreation Area / Navajo Nation

United States Department of the Interior - National Park Service

608 / 9-65 | 80,062-A / RMRO

Map 7

Separate administrative offices includes National Park Service ranger office.

Water wells, chlorinator, and central water distribution system.

Solid waste.

Central sewage collection system and treatment system.

Power and telephone services.

Prior to the design phase, the economic feasibility study should be updated to confirm marketability of the proposal. Such a study should be carried out by a third party which has no interest in the outcome. The study may result in the deletion of some of the above features, a change in scope of certain features, or revised phasing (refer to Figure 5). Significant changes in project parameters would require an amendment to this plan.

During the design phase, a decision will be made whether a wind study is needed to determine if a breakwater is required to allow for better launching from the public launch ramp. The prevailing wind direction does, however, provide for favorable launch conditions.

Included in the proposal would be a provision of space for up to 100 units of commercial residential housing. If built, the housing is to be located on Navajo land above the marina complex and the 3,720 contour line. This is an optional use under the proposal. The future need for this commercial housing will be determined by the Navajo Nation.

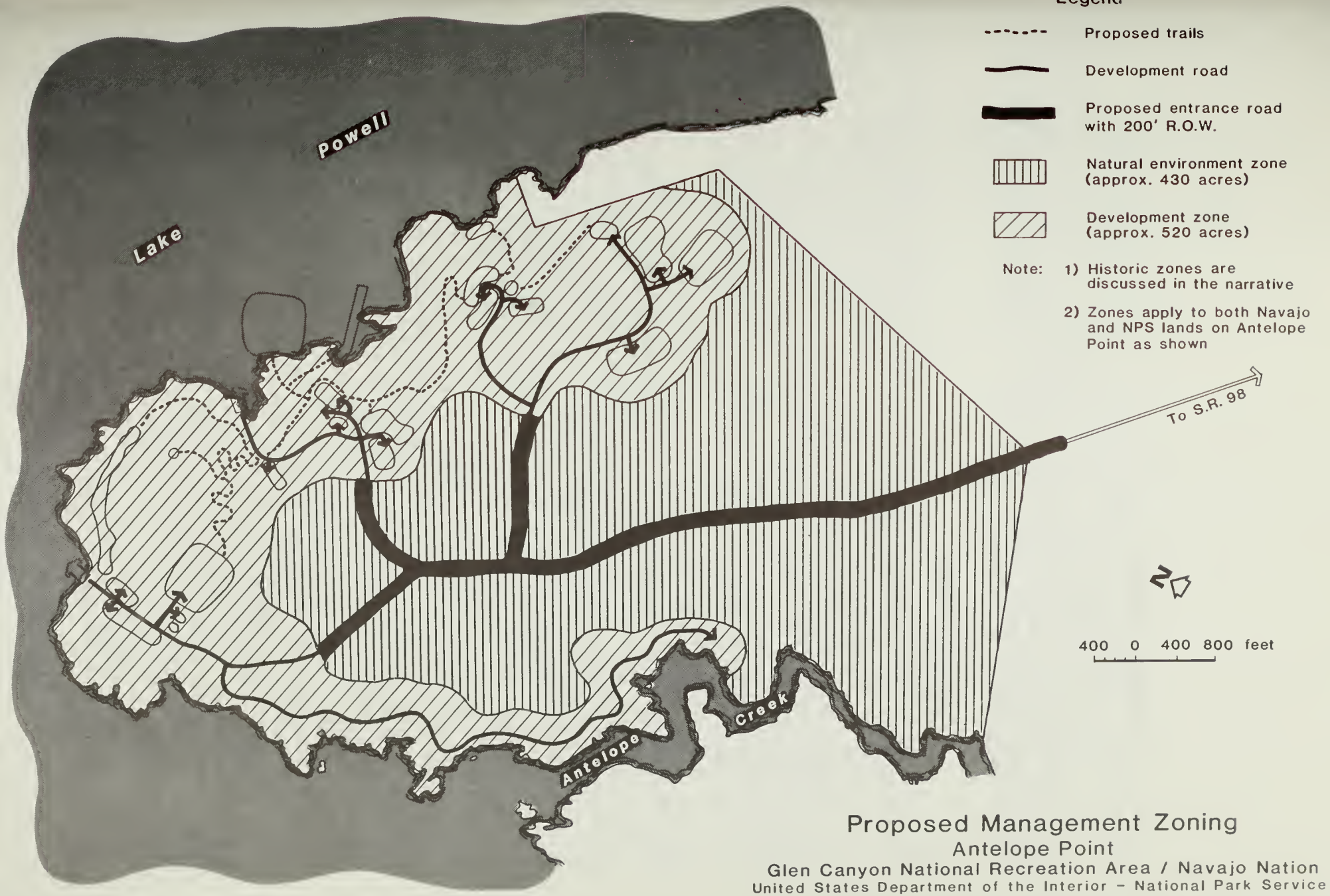
The following sections provide more detail and elaboration of other aspects of the proposal.

B. PROPOSED MANAGEMENT ZONING

Three zones are proposed for management of the Antelope Point project area. The accompanying map can be referred to for approximate locations. The zones are:

1. Development Zone

This zone incorporates both private and publically funded developed areas within Antelope Point. Included in the zone are the lodge and cultural center, marina complex, maintenance complex, employee housing, RV campground, public launch site, day-use beach and related roads, and utilities. The entrance road within a 200-foot right-of-way would be provided, but not included as part of the development zone. Uses permitted would be those listed in the proposal as discussed in prior pages.



Proposed Management Zoning

Antelope Point

Glen Canyon National Recreation Area / Navajo Nation

United States Department of the Interior – National Park Service

608 | 80,070-A
9-85 | RMRO

Map 8

2. Natural Zone

This zone includes all the land area not designated within the development zone. Uses permitted would be limited to designated and nonmotorized hiking trails and nature study. No construction disturbance or activity will be permitted within the zone. The protection of open space and natural features would be stressed.

3. Historic Zone

This third and final zone incorporates all the identified prehistoric sites within the Antelope project area. A total of 11 archeological sites are included. The archeological sites all involve lithic scatter or quarry material. There are two sites which will be directly affected and are referenced as AZ-K-5-11 and AZ-K-5-4. In order to provide protection to these sites, they have not been mapped and described herein. However, they have been considered during the preparation of the development configurations. Thus, important cultural resources are to be either avoided or mitigated prior to the construction phase.

Data recovery will be conducted in accordance with NPS-28 and the advisory council's "Treatment of Archeological Properties: A Handbook." All recorded archeological sites associated with the development will also be treated under and approved treatment/mitigation plan prior to construction. This plan must be approved by the National Park Service, Navajo Nation, and the Bureau of Indian Affairs in consultation with the State Historic Preservation Office.

C. DESIGN THEMES AND MOTIFS

Antelope Point is located adjacent to Lake Powell in an area of magnificent natural resources and vistas, and is rich in Navajo and southwestern culture. An architectural theme reflective of these unique cultural and natural resources should be developed incorporating the use of the area's natural colors and materials of the water and various rock and soil formations. The primary visitor-use buildings should be oriented to provide unobstructed views of the lake and distinguishing natural features including Tower Butte and the sacred Navajo Mountain. This may also apply to any seasonal and permanent employee housing. All buildings should be sensitively sited and constructed upon and into the natural features. Structures should be controlled concerning height (not more than two stories if possible) and blend with the color, texture, and topography of the site. Distinctive natural features, such as unique rock formations and cultural features, should be identified, protected, and incorporated into overall site design. Shade structures or appendices to

other facilities are important since the peak visitor season occurs during the hottest time of the year. This could include small shelters, latticed courtyards, and walkways.

Parking areas for cars and busses need to be sensitively placed in conjunction with the buildings, and in some instances special landforms, berms, and native plantings should be incorporated into the design to soften the vehicle impacts.

Walkways and trails should utilize natural colors and textures but at the same time must accommodate not only pedestrians but the handicapped. Accommodation should be made for bicyclists.

Wherever feasible, Antelope Point facilities, both public and private, should be designed to provide access for the physically disabled. This includes the lodge, restaurant, cultural center, tour boat dock, toilets, and other facilities. Larger handicapped parking spaces should also be designated.

Providing and maintaining a high quality standard of signing throughout Antelope Point is essential, both to direct the visitor and to contribute to the overall design expression. Attention should be given to color, size, lettering style, as well as to simplicity--keeping sign wording to a minimum. The signing should be conditioned by an approved "Sign and Wayside Exhibit Plan." This plan should be prepared jointly by the Navajo Nation and National Park Service.

The type of lighting throughout the project is also critical. The primary entry road, Antelope Point Road, should remain unlighted except for the intersection of Antelope Point Road and State Highway 98 and the three to four key intersections within the project area itself. Antelope Point Road can also incorporate reflective pavement stripes and raised reflectors to delineate the roadway and improve safety at night. Lighting within the core project area should seek to eliminate glare and keep the area's general light emissions to a minimum. Most important is to keep lighting from pointing out toward the water and to natural viewpoints. Critical to this point are the unobstructed views from the cultural center east toward Navajo Mountain. Outdoor dusk and evening programs would thus benefit, as would sunset viewing at selected locations throughout Antelope Point. Tasteful accent lighting can be used effectively in and around developed areas of the point including landscaped areas, to outline pedestrian walkways, to light up informational signs and to highlight certain natural features such as rock outcrops during the evening hours. It is

important that different height levels of lighting be thoroughly analyzed prior to implementation.

Special emphasis should be put on the design of the cultural center since it will be a focal point and major attraction within the development. The building offers an opportunity for Navajo structural expression. There are traditional structures and spaces such as the hogan which can be reflected in the overall design. The Navajo Tribal Council Chambers is a good example of a strong and consistent architectural theme. The Navajoland and Antelope Point information facility located at the State Highway 98 intersection should also reflect a consistent and traditional design theme.

The roads, parking, and drainage features (ditches, culverts, headwalls, and road shoulders) need to also have a sensitivity to the overall development.

Finally, a designed logo should be developed for the Antelope Point Development. This would aid in both creating easy identification of the facility as well as creating a sense of unity between facilities. It is suggested that possibly a traditional Navajo symbol or variation of a symbol be utilized. This logo should be used on everything from the entry sign to the glassware in the restaurant/lounge. Resort brochures, stationery, and other publicity media should also utilize the logo extensively.

In summary, with its association with the Navajo Tribe and its location largely on tribal lands and with its magnificent location, the Antelope Point development has a great opportunity to become a quality destination resort and offer a distinctive and unique visitor experience not now found on Lake Powell or on the Navajo Reservation. Careful attention to these and other details of design, architectural theme, and use of sound site development practices will help to insure that what is ultimately built on the ground matches up with what was envisioned conceptually.

D. CULTURAL CENTER

As part of the Antelope Point resort and marina complex, a cultural center would be constructed. This center is intended to provide the Antelope Point visitor with an appreciation and understanding of Navajo culture. As proposed, the center is to be situated on a hill next to the lodging facility to provide unobstructed views uplake to Tower Butte and Navajo Mountain. The center activities would vary but could include a formal seating area for audiovisual programs and dramatic plays as well as space for displays and exhibits and possibly incorporate an outdoor amphitheater for evening programs. An area for craft sales and other retail

space is envisioned along with space for artists studios and working areas. A parking area, either separate or associated with the lodge and restaurant should be adequately sized to accommodate day visitors as well as tour groups and space for buses. The cultural center may well serve as its own draw to visitors and may attract persons to Antelope Point who otherwise would not visit the area solely for recreational reasons. Cultural center programs and associated tour packages should thus provide opportunities for a wide range of visitor interests and activities.

The Navajo Nation will accomplish the necessary interpretive planning and exhibits for the cultural center.

This will be a major attraction and should have many capabilities. A hogan design on the exterior with an interior hogan will allow for a unique design and variety in usage. The interior hogan could be used for performances, traditional dances, lectures, audiovisual programs, large meetings, and so on. The rooms created by the exterior hogan walls and interior hogan walls could be used for exhibits, artist-in-residence, nature crafts, sales area, dressing rooms, kitchen space, and restrooms. The building would be two-story, with hotel registration and boat registration above. Viewing ports from above could be opened to view activities in the interior hogan. The traffic flow would take people from the registration areas to the information center and exhibits and out to the boat tour docks. Building and viewing orientation would be to the east over Navajo Mountain and the surrounding mesas.

E. COMMERCIAL HOUSING (Optional)

In addition to an employee housing area, the proposal provides for the construction of clustered residential housing at the end of the third phase of the development. This portion of the proposal should be considered as preliminary only. Therefore, the plan intends to allow for the construction of up to 100 residential units behind the marina area on Navajo lands. However, final determination as to both the need and suitability of such housing will be made at a later date by the Navajo Nation.

F. EMPLOYEE HOUSING

Employee housing will be provided upon Navajo lands for Navajo Nation employees. There will not be any housing needed for National Park Service employees.

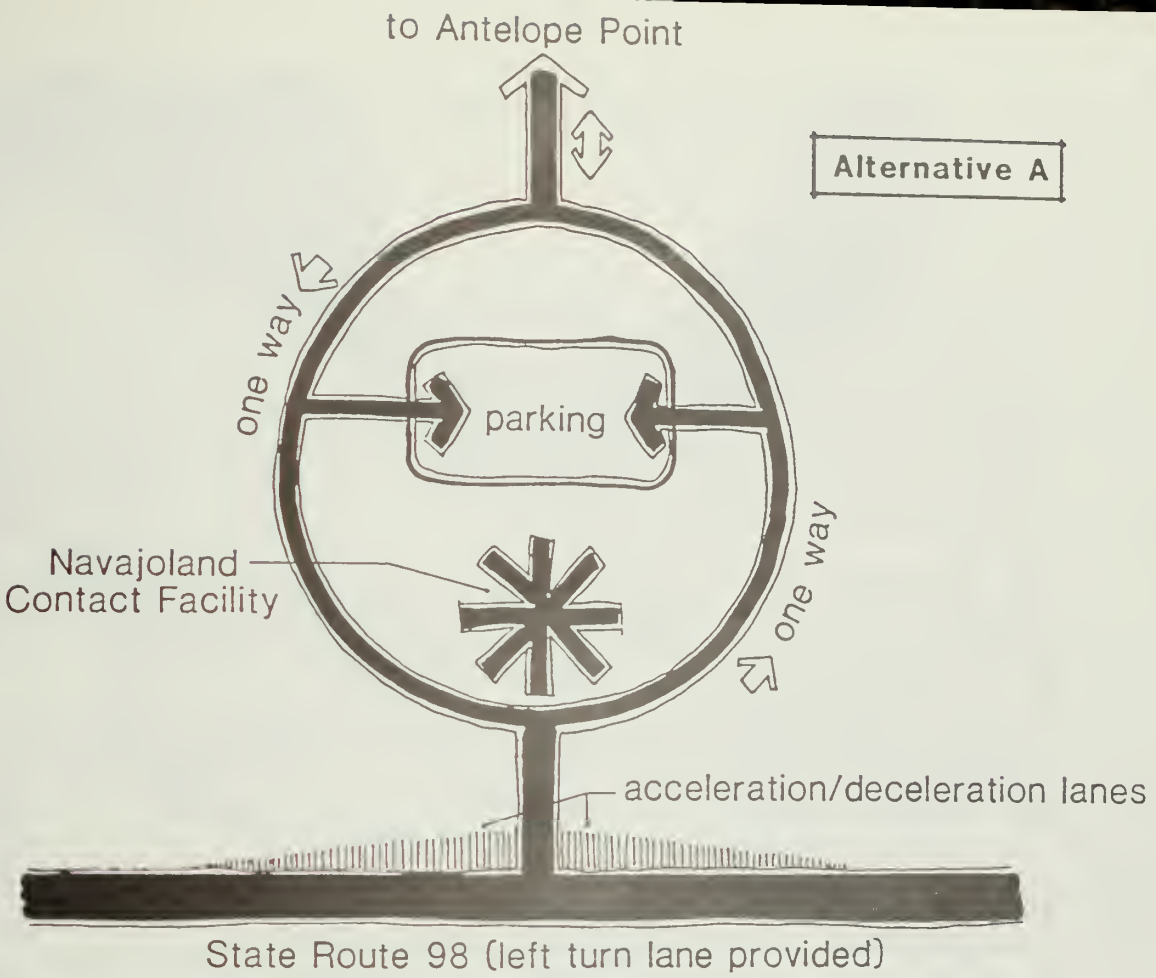
G. NAVAJOLAND VISITOR CONTACT STATION

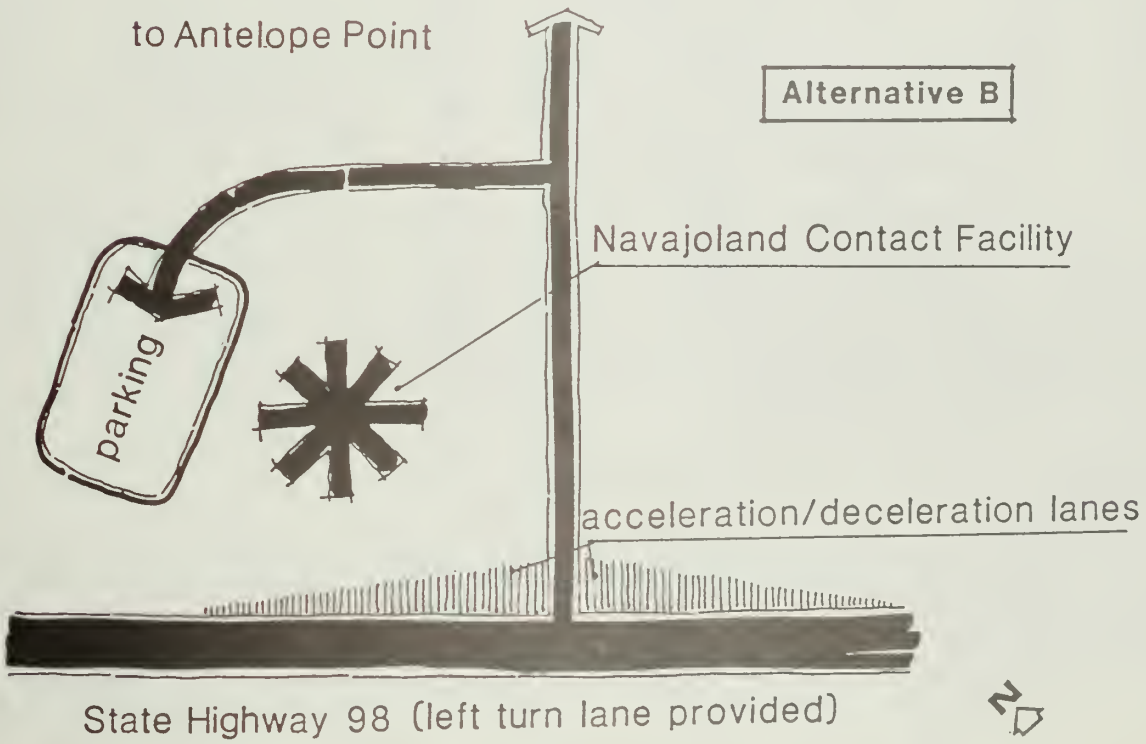
A new visitor contact station is proposed for construction at the intersection of State Highway 98 and Antelope Point Road. This facility would be constructed and managed by the Navajo Nation. The contact station is intended to provide general tourism information for Navajoland visitors as well as function as an entrance facility for visitors to obtain specific information on the Antelope Point Resort, marina complex, and cultural center. The Navajo Nation will accomplish the necessary interpretive planning and exhibits for this facility.

This facility would be located at the junction of State Highway 98 and the road to Antelope Point. It would be a major visitor information center for the entire Navajo Nation. It would be operated 7 days a week year-round. Handouts, information packets, and slide programs could be provided and presented. The architecture should blend with the concepts developed on Antelope Point.

The visitor contact station (see Map 9 displaying two alternatives) is proposed for construction on approximately 5 acres of land along State Highway 98 at the intersection of Antelope Point Road. Left and right turn lanes with accompanying acceleration and deceleration lanes would be constructed on State 98. In Alternative A, the entrance and exit would be split into a one-way in and one-way out configuration, with the contact station inself occupying the center of the site. Parking areas would be located behind the building to the north. At the location where the split road joins Antelope Point Road and continues in a general northerly direction out to the point earth berms would be situated to create a defined and enclosed space for the site. Alternative B would utilize the impacted dry camp site. The entire entrance area should be landscaped with native plant materials, and the general architectural design theme and motif of the entire Antelope Point complex should carry through to the visitor contact station as well.

Even though the dissemination of Navajoland and Antelope Point information would be stressed, efforts should be made to also provide the visitor with information about the public launch site, day-use area, and other Antelope Point facilities along with general Lake Powell information about public recreational opportunities within Glen Canyon National Recreation Area. This could either be accomplished through a cooperative agreement with the Navajo Nation, through the Volunteers In the Parks (VIP) program, or, as funding permits, staffed by a part-time seasonal interpreter.





no scale

Entrance Facility

Antelope Point

Map 9

Finally, it is recommended that approximately 5 acres of land be withdrawn by the Navajo Nation to be used as a visitor information facility site. This will not only provide adequate acreage for a protected setting, but will also allow for an onsite water well and sewage disposal, which may be required due to the distance from the main portion of the Antelope Point project site.

The National Park Service will also have a small contact facility near the marina. Personnel will contact visitors prior to them launching their boats. Information on lake activities and safety will be provided.

A series of wayside exhibits should be placed throughout the development to continue the story of the Navajo Nation and people of the past and present.

H. ENTRANCE ROAD

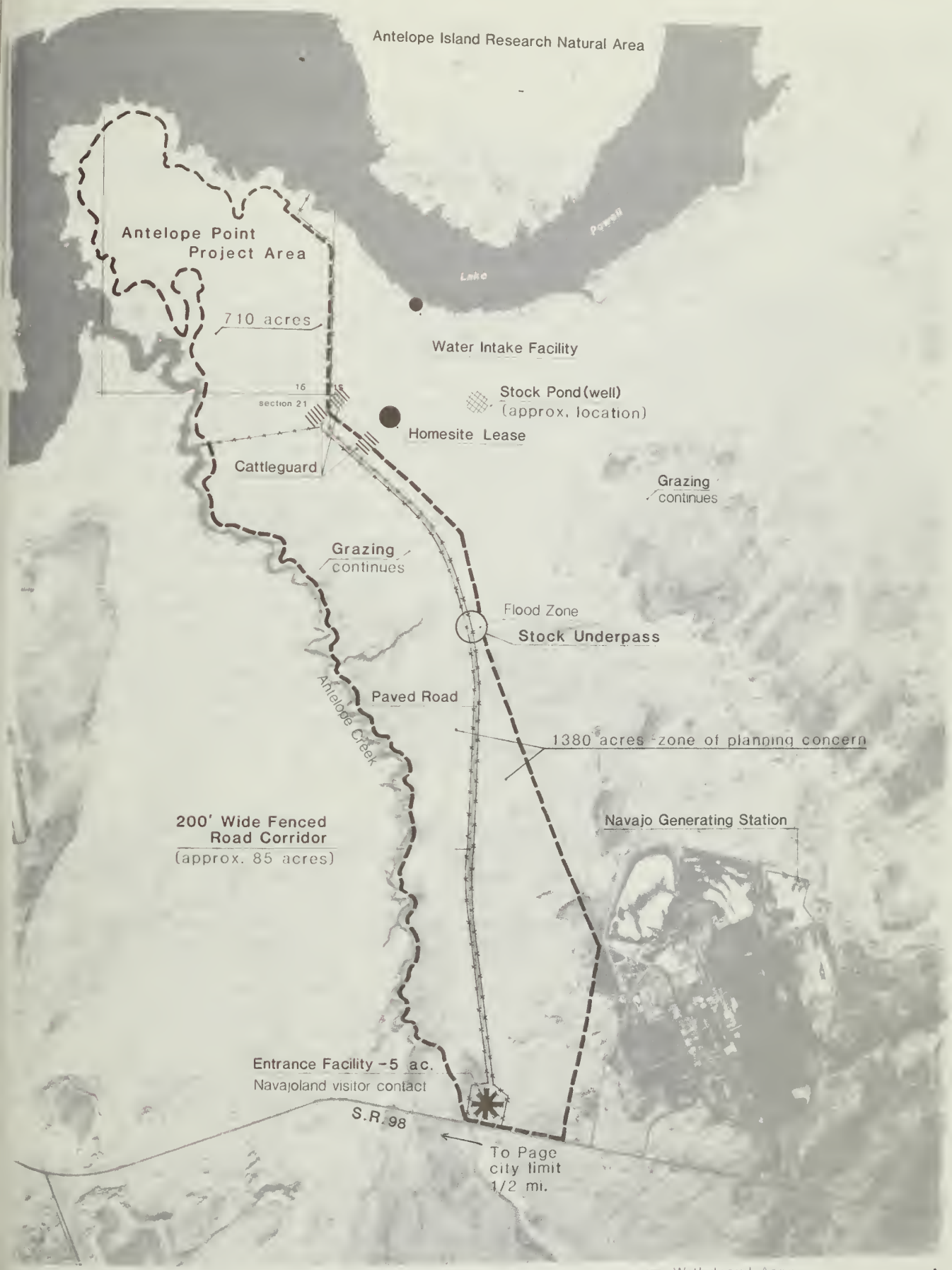
1. General

The principal project entrance road, tentatively named Antelope Point Road (BIA Route N22B), is proposed for upgrading between the project area boundary to the north and the junction with State Route 98 to the south. Under phase one of the project the road length between the water intake access road to the marina site (1.5 miles) would be upgraded to an improved gravel surface. Road base would first be constructed and would include culverts and other drainage features. The gravel surface would be converted to a paved surface at the end of project phase two. The BIA area roads office has been consulted with regard to the project.

Any needed improvements of the entrance road section between the State Route 98 junction and the water intake access road 3.5 miles would also be made at this time. This segment would continue to be used by the Navajo Generating Station for maintenance of their water intake facility. At a minimum, two major areas within this road section would require improvement.

2. State 98 Intersection

The first area involves construction of the improved intersection at the juncture of State Route 98 and Antelope Point Road. A left turn lane from State Route 98 as well as acceleration and deceleration lanes would be constructed to a paved surface following Arizona Department of Transportation standards. The project developer and/or road construction contractor would need to obtain a permit for an encroachment in highway rights-of-way from the State of Arizona Department



PROPOSED LAND USE

Antelope Point

Glen Canyon National Recreation Area / Navajo Nation

United States Department of the Interior — National Park Service

Map 10 — 608 | 80,068 A / 9 85 | RMRO

of Transportation. The Navajoland entrance facility road and parking area configuration would also be constructed at this time.

3. Flood Zone Crossing

Originating from the LeChee Rock area, a drainage flows northwest across the Antelope Point entrance road alignment. This drainage should be addressed in the detailed design phase to eliminate future road flooding problems due to spring runoff and local thunderstorm conditions filling the wash with water. Survey work and design studies should indicate whether a bridge structure is required or if large culverts or other solutions will successfully address the problem.

Several funding sources will be identified regarding the construction of the primary Antelope Point entrance road and roads throughout the project area. Potential sponsors include the Salt River Project, Navajo Generating Facility, and the Bureau of Indian Affairs. Use of a combination of these two or other funding sources will also be explored by the Navajo Nation. The National Park Service will accept responsibility for the construction and maintenance of the portion of project area road from the public launch area south past the proposed RV campground to the junction with the main Antelope Point road.

I. LAND REQUIREMENTS

A total of 715 acres would be withdrawn by the Navajo Nation for use as the Antelope Point Project Area (see accompanying Map 10). The size of the project site at the point would be 710 acres. This is the area required for all of the planned commercial facilities and associated public-use areas. The withdrawn area would adjoin the Glen Canyon National Recreation Area boundary to the north and west along the 3,720-foot contour line, to the east generally along the section line separating sections 15 and 16, and to the south along the section line between sections 16 and 21.

An additional 5-acre withdrawal should be completed for the Navajo land visitor contact facility located at the juncture of State Route 98 and Antelope Point Road.

A right-of-way is required to allow the construction of a paved two-lane road from the junction of State Route 98 north to the main project site, a distance of approximately 5 miles. The right-of-way should be 200 feet in width and be fenced on each side, as requested by local land users. Approximately 85 acres are involved in the right-of-way designation. In addition to serving as a road corridor, the

right-of-way could also serve as a utility corridor, as needed.

The joint planning team further recommends that an additional 1,380 acres along both sides of the road corridor be designated as a zone of planning concern as part of the Antelope Point project. (See accompanying Map 10). This area would be bounded on the north by the project site, on the east by the Navajo Generating Station lease, on the south by State Route 98, and on the west by the Antelope Creek.

The purpose of this recommended zone of concern would be to allow for a visual protective zone along the Antelope Point Road corridor. This would help to insure attractive open-space lands along the road, provide the visitor with a fitting entrance to the Antelope Point complex, and preclude incompatible land uses from locating along the road corridor. It is also recommended that unconstrained development along this corridor could severly diminish the attractiveness of the marina development and reduce its economic viability. Grazing rights would be retained by customary users on the 1,380 acres within the designated protective zone.

It is recognized that the designation of the 1,380-acre zone of planning concern involves significant issues and concerns of local, chapter members and representatives, and the Navajo Nation as a whole. A comprehensive land use planning process should be used to address these planning concerns and resolve these issues.

J. UTILITY DESIGN REQUIREMENTS

1. All Utilities including sewer and water lines, electricity, and telephone and cable television/communications should be placed underground within the entire project area. General locations of the primary utility lines are shown on Map 7.

2. Water

Two or more wells should be drilled into Lake Powell bank storage to provide water for the various needs at Antelope Point. To provide a minimum of 2-hours of fire protection for the complex, water storage should be constructed and placed underground. The storage should be sized to meet minimum code requirements for fire protection.

Assuming good water quality is obtainable, an in-line chlorinator is all that is needed to provide a potable water supply. Approximately 3,650 feet of water line will be required to serve Antelope Point's needs.

To maximize static head, water reservoirs should be located on the higher portions of the site wherever practical. Where static head is insufficient, an auxiliary pressure system should be provided to increase water pressure.

Daily summer domestic water use requirements are estimated at a peak rate of 210 gallons per minute or approximately 70,000 gallons per day--not including any outside irrigation that may be needed.

3. Electrical Power

Electrical power must be obtained through the Navajo Tribal Utility authority. Actual quantities will be determined during the comprehensive design phases of this project.

Cost estimates to underground electric lines indicate a cost between $30,000 to $50,000 per mile if no rock trenching is involved, considerably more where rock is encountered. Outside the project area, future design decisions should indicate where lower cost overhead powerlines would be acceptable. An alignment parallel to the existing utility corridor from the Navajo Generating Station to the water-intake facility could be considered for utilization. Whenever possible utilities in the immediate project area should be buried or concealed. The Antelope Point entrance road corridor could also be used.

4. Telephone Service

In addition to burying all project area telephone and cable lines, the routing and siting of these lines coming into the site should be coordinated with the routing and siting of the electrical powerlines wherever possible.

5. Sewage System

Approximately 5,600 feet of sewer collection line will be required to serve the Antelope Point complex.

A sealed evapotranspiration bed sewage disposal system is recommended for further analysis as the method of sewage treatment for Antelope Point. If selected, the beds would be located on approximately 8.7 acres of land between the Navajo Generating Station water-intake facility and a ridge line just southeast of the proposed employee housing area. The beds will encompass 377,677 square feet, and will utilize three septic tanks. The evapotranspiration process involves the central sewage collection system emptying into the three septic tanks. After the septics anaerobic action takes place, effluent is piped into sealed evapotranspiration beds.

There the natural work of the sunlight evaporates the effluent into the atmosphere. Since the beds are lined, no leaching into the subsurface would be expected.

Alternative sewage treatment methods should be evaluated. These include a sewage lagoon system, a conventional leach field with absorption trenches, or a modified leach field utilizing earth mounding where soil depths are inadequate. All feasible sewage treatment methods should be evaluated for their efficiency, environmental effects (size, odor, and other impacts), and for their comparative costs.

Day-use facilities and shoreline campsites will be maintained on a regular basis by project service personnel. Vault toilets installed at these sites will be pumped out periodically by a private operator under contract.

6. Solid Waste

Solid waste will be collected on a regular schedule and transported for disposal to an approved solid waste disposal site. Estimates of the volume of waste needing disposal will be generated during design of the facility.

7. Fish Cleaning Station

A fish cleaning station would be provided at the public launch ramp courtesy dock. The station must be equipped with grinders, and would deliver aqueous effluent to the wastewater treatment facility (7,500 gallons per day). The grinders, together with regular maintenance and cleaning, would maintain sanitary conditions at the station.

K. USE OF GRAVEL PIT MATERIAL

Throughout the construction period, involving both Phases I and II, gravel material may be extracted from the pit at the end of Antelope Point for use in building the project. Gravel pit operations will involve a crusher, loader, and truck hauling. The gravel will be used for road base material as well as for general construction. Additional gravel will be stockpiled at a suitable location, likely in the vicinity of the primary maintenance area, for future needs including those of the traditional land users. Once Phase I is completed, and adequate gravel supplies have been stockpiled, the gravel pit area will be completely rehabilitated and converted to a public overlook site. There are no known reserved quarry rights on the gravel pit site and a permit through proper procedures will be required from the Navajo Nation. None of the quarry is within the recreation area. Should this material be used, the quarry would not be excavated below the elevation of 3,795 feet.

The hill elevation is currently at 3,617 feet. The design elevations and limits must be agreed upon by the Navajo Nation and the National Park Service.

L. PROJECT INFRASTRUCTURE AND PHASING

In accordance with the memorandum of agreement dated 1970 (Appendix B), as mutually agreed in item number two; "That portion of the Navajo Indian Reservation lying contiguous, but in no event in excess of one mile from Parcel 'B' lands may be devoted to recreational use as Navajo Sites pursuant to this agreement. The Service agrees to participate in the planning, developing, and maintenance of nonincome producing facilities and shall provide technical advise and assistance which will lead to the preservation and recreational enjoyment of the historical and recreational resources associated with Navajo Sites."

National Park Service participation in development of Antelope Point will generally consist of direct construction of non-income producing facilities within the park boundary such as a launching ramp with courtesy dock, picnic area, trails, exhibits and associated utilities, and an informal camping area. The Navajo Nation will generally provide the income producing facilities such as lodging, marina, and cultural center. However, there are parts of roads, utilities, signs, and exhibits which need to be prorated between the Navajo Nation and National Park Service in the near future.

Under this agreement development of Navajo sites, such as at Antelope Point, should be accomplished in accord with a long-range management and development plan such as this development concept plan. This particular section of the development concept plan recommends how the overall development phasing, responsibilities, and implementation can be accomplished.

M. JURISDICTIONAL RESPONSIBILITIES

1. Law Enforcement

The unique land status of the Antelope Point Project Area will require the cooperative effort of several law enforcement agencies to enforce applicable laws at the Project Area. Law enforcement agencies that will likely be involved at the project area include Navajo Tribal Police, Navajo Tribal Rangers, National Park Service Rangers, Arizona Department of Public Safety, Coconino County Sheriff, and Federal Bureau of Investigation and Bureau of Indian Affairs Law Enforcement Officers. Given the number of law enforcement agencies involved in the project area, the most efficient and effective law enforcement would take place

through a process of mutual aid agreements and/or cross deputization and commissioning of officers.

Enforcement activities above the 3,720-foot elevation line will be acted on and violations processed as occurring on Navajo lands. Enforcement activities on the water will be acted on and violations processed by the National Park Service. Enforcement activities between the waterline and the 3,720-foot elevation line will be processed in the same manner as other parcel B lands within the Glen Canyon National Recreation Area except that in addition to National Park Service Rangers other properly commissioned law enforcement officers may also carry out investigations and make arrest in this area. The actual lines of enforcement activities will be refined by the agencies in a joint effort as the area is developed.

2. Fire Protection

The Antelope Point project shall comply with applicable Uniform Building Code; National Fire Protection Associations Fire Standards, NFPA Life Safety Code 101. The project construction and operation(s) shall comply with applicable fire and safety codes and standards.

The Navajo Nation, Fire and Rescue Services, and other enforcement agencies shall coordinate with the developer so that provisions are made to render the project construction and the operation safe.

Fire and Rescue Services (suppression, prevention, rescue operation) shall be provided on all land area within the Antelope Point project area. This shall encompass a fire station facility(s), fire suppression equipment, rescue equipment, and all other special equipment required for the project area. Staffing of equipment and facility shall be sufficient for the operations (suppression/rescue--land and water--prevention).

A written mutual aid agreement would be sought to provide backup fire protection assistance from the City of Page.

The National Park Service will be responsible for boat fires.

3. Emergency Services

The Antelope Point development should have a first aid room available in conjunction with either the lodge or marina complex. Trained employees should be available with advanced first aid knowledge and be certified in CPR and emergency medical services (Emergency Medical Technician). By the end of Phase II, the complex should also have a fully equipped emergency medical vehicle available.

As with fire services, the City of Page, Arizona, could supply backup support for emergency medical services. The National Park Service ranger staff at the public launch and marina area can also be called on to assist.

Finally, it is proposed that the Antelope Point development area be incorporated into the National Park Service hazardous materials spill contingency plan to provide a containment and cleanup plan in case of fuel spills and similar emergencies.

4. Public Safety Facility

A Public Safety facility to serve Antelope Point should be provided. A combined structure is proposed, the size of which should be adequate to accommodate law enforcement, fire protection, and emergency services as required to serve the project.

5. Aids to Navigation

Boat traffic on the marina and adjacent lake zones will be controlled under the standard navigational aids system established by the United States Coast Guard. This would include installation of speed control buoys to form a "wakeless speed" zone around the marina, and directional buoys on daymarkers along the adjoining channel. Compliance with boating safety regulations will be enforced by the National Park Service.

6. Alcohol Sales

The policy regarding the sale of alcoholic beverages within the project area is proposed as follows:

a. Within the national recreation area, alcohol sales are permitted. Liquor control laws of the State of Arizona would be applicable. The National Park Service will not authorize the sale of alcoholic beverages at this development without the approval of the Navajo Nation.

b. Tribal law states that alcoholic beverages will not be sold on Navajo land. If the Navajo Nation determines that the restricted sale of alcoholic beverages within the Antelope Point resort complex is important to serving visitors and to improve economic viability of the project, then special legislation by the Navajo Nation would be required.

7. Concession Contract Relationships

The National Park Service will develop a concessions contract with the Navajo Nation, authorizing the Tribe to develop facilities and offer public services within the recreation area at Antelope Point. The contract will be drafted in accord with existing National Park Service concessions management guidelines; it will be limited to the Antelope Point area.

Once the contract is approved by all parties the Tribe may implement the Antelope Point development directly or subcontract to a private developer. All subcontracts and development activities must be consistent with the basic concessions contract and the approved development concept plan.

Issues to be resolved during contract negotiations will include franchise fees which are normally charged to concessioners by the National Park Service for the privileges conveyed by the contract. Rates charged by the concessioner to the public at marina facilities or other income-producing properties located within the national recreation area will be subject to National Park Service rate approval.

8. Fees

Two types of fees which could be considered in connection with the proposal are entrance fees and user fees. Entrance fees are per capita or per vehicle charges for entry to a developed area. Such fees are charged in some units of the National Park System. Under the enabling legislation for Glen Canyon National Recreation Area, however, entrance fees may not be charged. The Navajo Nation may charge an access fee for their facilities, if it is in their best interests to do so.

User fees are charges for the use of specific facilities. For example, fees for use of the RV park or admission to cultural center programs might be considered. After further analysis of economic feasibility and recreation demand, fees may be instituted during project phasing for the use of certain facilities.

N. NATIONAL PARK SERVICE STAFFING AND OPERATION NEEDS

Implementation of the development concept plan is partially dependent on the National Park Service's ability to provide required services. The proposal would result in the following requirements for National Park Service staffing and operations support at Antelope Point:

STAFFING (FTE)

	Permanent	Seasonal or Temporary	Total Costs (Including benefits, insurance retirement and such)
Phase I	1 - Park Ranger 1.0 FTE, GS-9 ($26,935)	Park Technician .75 FTE GS-5 ($12,702) .50 FTE GS-4 ($7,569)	$47,200
Phase II	(To be added to the above) Park Technician .75 FTE GS-5 ($13,331) Maintenance Worker .50 FTE WG-4 ($8,812)	Clerk Typist 1.0 FTE GS-3 ($13,486)	$35,600

OPERATIONS

Phase I	1 boat 2 vehicles 1 vehicle	Supplies and equipment Fuel (Vault pump-out unit)	$150,000
Phase II	1 vehicle	Supplies and equipment fuel	$25,000

ANTELOPE POINT DEVELOPMENT CONCEPT PLAN
NAVAJO NATION STAFFING AND OPERATION NEEDS
JUNE 1985

ADMINISTRATION		PHASE I	PHASE II
Area Manager	(26,432)	0	26,432
Assistant Manager	(22,833)	0	22,833
Secretary	(14,709)	0	14,709
Administrative Clerk	(11,528)	0	11,528
	SUB-TOTAL:	$ 0	$75,502
MAINTENANCE			
Clerk Typist	(11,528)	11,528	0
Building Maintainer II	(14,013)	14,013	0
Building Maintainer I	(12,100)	12,100	0
Building Maintainer I (Seasonals)	(6,050)	6,050	18,150
Custodial Worker I	(9,491)	9,491	9,491
Park Maintainer II	(13,343)	13,343	0
Park Maintainer I	(11,528)	11,528	0
Park Maintainer I (Seasonals)	(5,765)	5,765	17,295
Operations		330,000	45,000
Vehicles		40,000	20,000
	SUB-TOTAL:	$453,818	$109,936
PROTECTION			
Police Sergeant	(17,044)	0	17,044
Police Officer	(14,709)	0	73,545
Detention Officer	(11,528)	0	0
Park Ranger III	(17,044)	17,044	0
Park Ranger II	(14,709)	29,418	0
Park Ranger I	(12,721)	12,721	0
Park Ranger (Seasonals)	(6,361)	0	19,083
Clerk Typist	(11,528)	0	11,528
Operations		25,000	275,000
Vehicles		35,000	55,000
	SUB-TOTAL:	$119,183	$451,160
INTERPRETATION			
Chief	(21,746)	21,746	0
Clerk Typist	(11,528)	0	11,528
Park Interpreter	(17,044)	17,044	0
Park Technicians	(14,013)	14,013	14,013
Park Technicians (Seasonals)	(7,007)	7,007	42,042
Operations		55,000	110,000
Vehicles		35,000	0
	SUB-TOTAL:	$149,810	$177,583
	GRAND TOTAL:	$722,811	$814,181

O. NAVAJO NATION STAFFING AND OPERATION NEEDS

The implementation of the Antelope Point development by the Navajo Nation relies heavily on the staff and operational needs for protection of the visitors, users, and resources; maintenance of roads, trails, buildings, and utilities, and other recreational facilities; visitor services and interpretation programs; and, administration of these programs. The proposal will result in staffing and operational requirements to provide required services to the recreation area (see Antelope Point Development Concept Plan, Navajo Nation Staffing and Operation Needs, June 1985).

P. MANAGEMENT RESPONSIBILITIES

The National Park Service management responsibilities at Antelope Point would be limited to the shoreline environs below the 3,720-foot contour line. This includes the public launch ramp, day-use area, and parking area at the head of Antelope Point, any information kiosk that is located at the point and the informal camping area along the shoreline to the west of the point. Additionally, management responsibilities for law enforcement and emergency services are as stipulated in the jurisdictional responsibilities section of this plan. Those facilities and activities outside of Parcel "B" and within Glen Canyon National Recreation Area are solely the management responsibility of the National Park Service. Facilities and activities between the center line of the old Colorado River channel and the 3,720-foot contour is included as Parcel B and, therefore, subject to joint management as stipulated in the memorandum of agreement between the National Park Service and the Navajo Nation. Finally, those facilities and activities above the 3,720-foot contour would be the management responsibility of the Navajo Nation.

Q. DEVELOPMENT COSTS/RESPONSIBILITIES

The following figures (Figures 5 and 6) represent a proposed phasing and Class "C" cost itemization of the development proposals; however, the details and particulars of how these are to be funded for construction, maintenance, and operation must be decided during subsequent negotiations between the Navajo Nation and the National Park Service.

On the following pages of estimated costs for the Proposal and alternatives, it is noted that:

1. The first column represents the estimated net construction costs.

2. The second column represents the potential gross overhead costs of up to 61 percent associated with advanced planning (engineering surveys, field tests, archeological mitigation, preliminary design), project planning (design, working drawings, specifications, advertisement), construction supervision, and construction contingencies.

3. The third column represents the estimated total gross costs.

Figure 5

GLEN CANYON NATIONAL RECREATION AREA

Antelope Point Development Concept Plan

Proposal Phasing*
(Refer to Map 7)

Element Description

Phase I (year 1-3)

1. Archeological and ethnographic treatment
2. Land withdrawals
3. Set up temporary project office onsite
4. Construct portion of entrance road (drainage, base, archeology, gravel surface) from intake junction to marina. Upgrade the section from U.S. 98 to intake junction
5. Construct concrete marina launch ramp and a gravel parking area
6. Develop one water well and portion of water storage and distribution system
7. Construct associated roads and parking near marina
8. Construct 150-slip marina and marina store/tour boat dock
9. Construct courtesy dock/fuel dock/fuel storage and boat pump-out station
10. Construct marina maintenance area facility and dry-boat storage area
11. Purchase 10 houseboats and 10 ski boat rentals
12. Construct initial sewage treatment facility and collection system which could include temporary hauling
13. Purchase one tour boat
14. Install initial power and telephone and lighting
15. Construct gravel road to public launch ramp including parking area
16. Construct public launch ramp with courtesy dock and vault toilets and kiosk and fish cleaning station
17. Construct day-use shelters
18. Navajo Land Visitor Contact facilities at State 98/with utilities
19. Entrance road at State 98 Junction and parking
20. Area signing (portion)
21. Portion landscape treatment and irrigation
22. Initiate portion employee housing
23. Rehabilitate gravel quarry, stockpile gravel

Figure 5
(Continued)

Element Description

Phase II (year 4 - 8)

1. Construct cultural center/lodge/restaurant/construct gravel road and parking
2. Complete construction of marina complex
3. Designate informal campground road with parking spurs and alignment
4. Install informal campground vault toilets
5. Complete water and sewage systems/power and telephone
6. Construct gravel roads to boat storage/housing/ maintenance facility/sewage treatment, ind. maintenance area and boat storage area
7. Construct maintenance facility and dry-boat storage building
8. Construct RV campground road, spurs, sites, utilities, camp store, laundry, showers, parking
9. Portion of employee housing
10. Add tour boats/rental boats/houseboats
11. Construct portion of trails
12. Pave all gravel roads (to be prorated)
13. Public safety facility (including ranger station)
14. Public safety facility (other entities)

Phase III (year 9 -12)

1. Construct trails, overlook, and exhibits
2. Complete all walks, paths, trails, lighting, landscaping, and irrigation
3. Complete all signing and interpretation
4. Complete employee housing
5. Construct road/parking/commercial housing as determined

* The individual sequence of phasing may need to be altered in the future to meet unforseen circumstances such as changes in funding levels and availability.

Figure 6

PROPOSAL

ANTELOPE POINT DEVELOPMENT CONCEPT PLAN - ESTIMATED COSTS

Roads, Parking, Trails	Construction	Plans/Specs Supv. Const.	Total Dollars In thousands
Main entrance road from U.S. 98 (13,200 LF) to intake Jct.	792	483	1,275
Accel. and decel. lanes on U.S. 98 (1,500 LF)	135	82	217
Entrance facility parking (50 cars) w/curb	50	30	80
Entrance road from junction to marina (6,400 LF)	576	350	926
Road to marina launch (1,400 LF)	126	77	203
Other Roads (500 LF) and parking (400 cars) w/curb	445	272	717
Concrete marina launch (20 x 150 LF)	25	15	40
Marina maintenance area (30,000 SF) w/fencing 800 LF --	354	216	570
Clustered housing parking (75 cars) w/curb	75	46	121
Road to public launch/day-use area (3,500 LF)	315	192	507
Day-use parking (300 cars--double spaces) +50 cars	350	214	564
Public launch ramp (80 x 150 LF)	100	61	161
Camp store parking (30 cars) w/curb	30	18	48
RV camp rd. (3,000 LF) and 150 sites	1,750	1,067	2,817
Cultural center parking (100 cars, 2 buses)	104	64	168
Informal overnight-use road (2,400 LF) & 50 sites	246	150	396
Road to lodge/rest (2,400 LF) & parking (200 cars)	416	254	670
Road to boat storage/housing/sewage treatment (1,600 LF)	144	88	232
Dry-boat storage area (160,000 SF) and fencing 1,600 LF	1,112	682	1,794
General maintenance area (135,000 SF) fencing 500 LF	162	99	261
Major Trails (6,800 LF)	95	58	153
Miscellaneous walks, trails (2,000 LF)	28	17	45
Gravel quarry rehabilitation/restoration (12 acres) including gravel stockpile	42	26	68
Archeological mitigation (Lump Sum)	90	20	110
SUBTOTAL	7,562	4,581	12,143

Figure 6 (continued)

PROPOSAL

ANTELOPE POINT DEVELOPMENT CONCEPT PLAN - ESTIMATED COSTS

Buildings, Utilities, and Miscellaneous	Construction	Plans/Specs Supv. Const.	Total Dollars In thousands
Entr. State 98 info./orient. ctr. (1,500 SF)	113	69	182
Marina buildings and store and shops (10,000 SF)	750	456	1,206
Marina boat slips (300) and courtesy dock (1,000 LF)	1,400	854	2,254
Marina fuel station and storage (30,000 gals.)	100	61	161
Marina maintenance building (7,500 SF)	562	343	905
Clustered residential housing (100 units)	1,000	610	1,610
Public Safety Facility (incl. NPS Ranger Station 400 SF $45,000)	740	340	1,080
Camp store (300 SF) laundry/showers (2,000 SF)	222	135	357
Day-use shelters (5)	150	92	242
Day-use vault toilets (4)	80	48	128
Rest Rooms (Phase II)	75	46	121
Camping overnight vault toilets (4)	80	48	128
Employee housing (10 units--6 single family, 4 dorms	500	250	750
Dry-boat storage miscellaneous building (160,000 SF) plus 1,600 LF fence	1,112	682	1,794
Tour boat dock (100 LF)	50	31	81
Public launch courtesy dock (100 LF) w/fish cleaning station	150	50	200
Kiosk for public launch area	2	1	3
Cultural center (15,000 SF), * lodge (225 units - tennis, pool, spa), * restaurant--200 seat	1,500	915	2,415
Overlook facility	20	12	32
General maintenance facility (1,000 SF)	75	46	121
Water well and water storage (240,000 gals.)	364	222	586
Water distribution system, inc. fire hydrants	204	124	328
Sewage collection system	225	137	362
Sewage treatment facility (100,000 gals./day) (1) Evap. ponds/lagoon sys. 450,000, (2) Septic tanks/leach field 656,000, (3) Septic tanks mound system 1,128,000, (4) Evapotranspiration beds 3,876,000	?,364	1,512	(range of 450 to 3,873)
Power distrib. system and lighting, underground	250	152	402
Telephone service, underground	100	61	161
Signing/interp. exhibits (Lump Sum)	93	57	150
Landscape, irrigation - 6 acres (LS)	250	153	403
SUBTOTALS	12,531	7,507	20,035
GRAND TOTALS	$20,093	$12,088	$32,178

IV. DEVELOPMENT ALTERNATIVES

A. ALTERNATIVE A - MODERATE SCALE-CONSOLIDATION

This alternative involves centrally locating a moderate sized marina and resort complex in the same bay of Antelope Point.

Under this alternative a 150-175 slip marina would be constructed in a bay along the northeast portion of Antelope Point. Consolidated just above the marina would be a 100-125 unit lodging facility which would include a restaurant and lounge and meeting rooms, cultural center, and swimming pool. The public launch site would be located in the same bay as well. Two stores would be constructed under Alternatives A and B--one to serve marina users and the other to serve the RV campground.

As with The Proposal and Alternative B, a paved road would be constructed from State Highway 98, out to Antelope Point and then throughout the project area. At the Antelope Point Road/State Highway 98 intersection, a visitor facility would be constructed to provide information about Navajoland and Antelope Point.

Public use facilities to be developed by the National Park Service include a public launch ramp located just to the east of the Marina complex; a day-use beach area with parking, picnic shelters, information kiosk, and toilets; a scenic overlook at the tip of Antelope Point; and an area for informal camping where only minimal services are provided.

The Navajoland visitor contact facility would be constructed as described in The Proposal. The design theme and jurisdictional responsibilities would also be the same. Utilities would be the same as The Proposal except for reduced sewer and water line length due to the consolidated configuration. There may be some reduction in the size of the sewage treatment facilities due to the reduction in lodging units, also.

Principal features of Alternative A are as follows. See accompanying Map 11 for facility locations.

100-to 125-unit lodge with restaurant and lounge and meeting rooms, 25-meter swimming pool, and 150 car paved parking area

Cultural center with artist studios and retail shops and 100-car paved parking lot with provision for bus parking

150- to 175-slip Marina with some covered slips

Marina store

Boat rental office and 100-car paved parking lot

Courtesy dock and boat fuel sales

Maintenance area

Public launch ramp and 100-car paved parking lot

Dry boat storage

Overlook constructed at the tip of Antelope Point above the day-use area

Day-use beach area with toilets, picnic shelters, and 200-car parking area

Pedestrian trails linking marina and day-use area

Informal camping area

RV campground with full utility hookups and marina store, showers, and laundry

Information center for Navajoland and Antelope Point at U.S. Highway 98 intersection with road to Antelope Point

Water wells, chlorinator, and central water distribution system

Central sewage collection system and treatment system.

ALTERNATIVE A

Antelope Point

Glen Canyon National Recreation Area / Navajo Nation

United States Department of the Interior – National Park Service

608 | 80,063
3-88 | RMRO

Map 11

Figure 7

ALTERNATIVE A

ANTELOPE POINT DEVELOPMENT CONCEPT PLAN

Roads, Parking, Trails	Construction	Plans/Specs Supv. Const.	Total Dollars In thousands
Main entrance road from U.S. 98 (13,200 LF) to intake Jct.	792	483	1,275
Accel. and decel. lanes on U.S. 98 (1,500 LF)	135	82	217
Entrance facility parking (50 cars) w/curb	50	30	80
Entrance road from intake junction to dev't zone (7,000 LF)	630	384	1,014
Marina launch ramp (20 x 50)	25	15	40
Marina parking (80 cars)	80	49	129
Marina maintenance area (100 x 300 SF) paved	337	206	543
Road to public launch from entrance road (2,400 LF)	108	66	174
Public launch ramp (40 x 50)	50	30	80
Parking (750 cars--double spaces)	750	458	1,208
Road to dry-boat storage (1,200 LF)	90	55	145
Dry-boat storage area (160,000 SF - 250 boats)	500	305	805
General maintenance area (135,000 SF)	152	93	245
Road to cultural center (1,000 LF)	90	55	145
Cultural center parking (200 cars)	200	122	322
Road to day-use area (2,400 LF)	216	132	348
Day-use parking (200 cars)	200	122	322
Informal overnight-use road (2,400 LF) and 25 campsites	231	141	372
General store parking at Rd. Jct. (30 cars)	30	18	48
Road to and through RV camp (3,000 LF) and 50 sites	770	470	1,240
Road to overlook (2,400 LF)	216	132	348
Overlook parking (15 cars)	15	9	24
Gravel quarry rehab. and restore (12 acres)	42	26	68
Archeological mitigation (Lump Sum)	75	20	95
SUBTOTALS	5,784	3,503	9,287

Figure 7 (continued)

ALTERNATIVE A

ANTELOPE POINT DEVELOPMENT CONCEPT PLAN

Buildings, Utilities, and Miscellaneous	Construction	Plans/Specs Supv. Const.	Total Dollars In thousands
Entrance U.S. 98 Info./Orient. Ctr. (1,500 SF)	187	115	302
Marina buildings and store (1,500 SF)	135	82	217
Marina Boat slips (175) and courtesy dock (1,000 LF)	575	351	926
Marina fuel station and storage (30,000 gals)	100	61	161
Marina store 300 SF	23	14	37
Marina maintenance building (20 x 50) and fencing 800 LF	100	61	161
Public launch courtesy dock (100 LF)	150	50	200
Dry storage miscellaneous building (1,000 SF) and fencing (1,000 LF)	95	58	153
General maintenance building (1,000 SF)	75	46	121
Lodge (125 units) and restaurant (50 seats)	150	70	220
District Ranger office (400 SF)	10	5	15
Cultural center 15,000 SF	1,500	915	2,415
Day-use shelters (5)	150	92	242
Day-use vault toilets (4)	80	48	128
Informal overnight vault toilets (2)	40	25	65
General store building (300 SF)	30	18	38
Overlook platform $20,000	20	12	32
Water well and water storage (300,000 gals.)	400	244	644
Water distribution system, incl. FH	200	122	322
Sewage collection system	200	122	322
Sewage treatment facility (75,000 gals./day)	3,000	1,830	4,830
Power distribution system and lighting	250	152	402
Telephone service (LS)	100	61	161
Signing/Interp. exhibits ($100,000 LS)	100	61	161
Trails and walks 5,500 LF, irrigation 4 acres	200	90	290
SUBTOTALS	7,870	4,705	12,565
GRAND TOTALS	$13,654	$8,208	$21,852

B. ALTERNATIVE B - LARGE SCALE CONSOLIDATION

This alternative combines elements of Alternatives A and The Proposal. The consolidated features of Alternative A are used along with the larger project scale of The Proposal. As with Alternative A, public boat launching and the marina would both be in the same bay of Antelope Point. Like the proposal, Alternative B also provides for clustered residential housing.

The Antelope Point Entrance Road and Navajoland visitor contact facility would be constructed as described in The Proposal. The design theme and jurisdictional responsibilities would also be the same. Also, utilities would be the same as the proposal except for lower sewer and water line lengths due to consolidation of facilities.

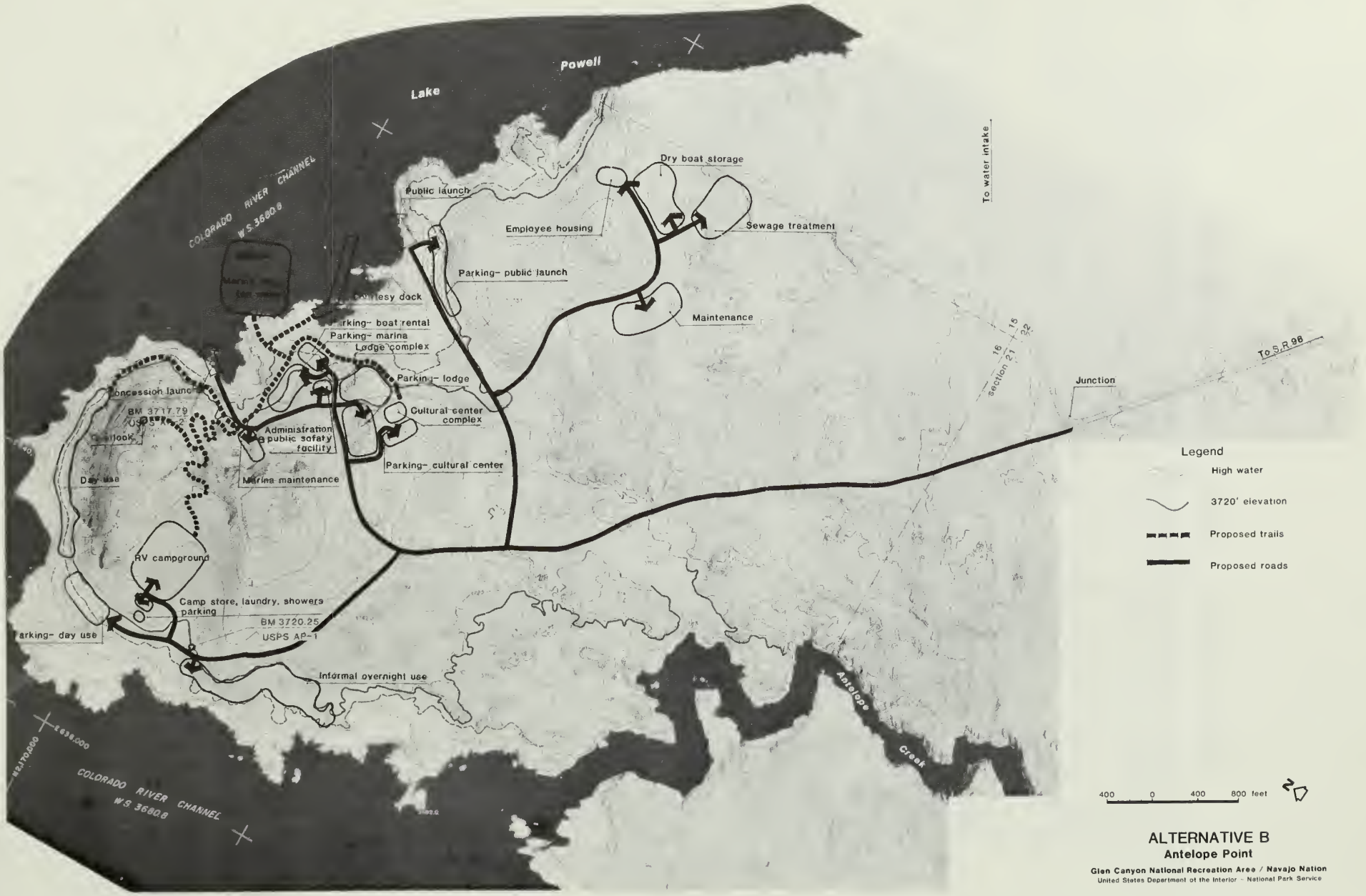
Principal features of Alternative B are the same as The Proposal except for the following. See accompanying map for facility locations.

200- to 225-lodge units with meeting rooms and cultural center complex is located just above the marina instead of on the knoll to the east.

No separate day-use beach area for lodge

Public launch ramp located just east of marina with separate 100-car paved parking area

200-car paved parking area constructed along with day-use area.



ALTERNATIVE B

Antelope Point

Glen Canyon National Recreation Area / Navajo Nation

United States Department of the Interior – National Park Service

608 | 80,064 A
9-85 | RMRO

Map 12

Figure 8
ALTERNATIVE B
ANTELOPE POINT DEVELOPMENT CONCEPT PLAN

Roads, Parking, Trails	Construction	Plans/Specs Supv. Const.	Total Dollars In thousands
Main entrance road from U.S. 98 (13,200 LF) to intake Jct.	792	483	1,275
Accel. and decel. lanes on U.S. 98 (1,500 LF)	135	82	217
Entrance facility parking (30 cars) w/curb	30	18	48
Entrance road from intake junction to development zone (6,800 LF)	612	373	985
Marina parking (150 cars)	150	92	242
Concrete marina launch ramp (20 x 150 LF)	25	15	40
Marina maintenance area (30,000 SF) and fencing 800 LF	353	215	568
Road to lodge and cultural center (1,400 LF)	126	77	203
Parking at lodge/cultural center (400 cars, 4 buses)	408	249	657
Road to day-use area (2,800 LF) and parking (200 cars)	452	276	728
General store parking (30 cars) with curb	30	18	48
RV camp road (3,500 LF) and 150 sites	1,500	915	2,415
Public launch ramp (40 x 150 LF)	50	30	80
Road to public launch (2,200 LF) and parking (150--double spaces)	498	304	802
Informal overnight-use road (2,400 LF) and 50 sites at 600/site	246	150	396
Road to boat storage/maintenance facility/ housing/sewage treatment (1,300 LF)	117	71	188
General maintenance area (135,000 SF) 500 LF fencing	162	99	261
Dry-boat storage area (160,000 SF) 1,600 LF fencing	1,112	682	1,794
Trails and walks (5,500 LF)	77	47	124
Gravel quarry rehabilitation/restoration (12 acres)	42	26	68
Archeological mitigation (LS)	75	20	95
SUBTOTALS	6,992	4,243	11,234

Figure 8 (continued)

ALTERNATIVE B

ANTELOPE POINT DEVELOPMENT CONCEPT PLAN

Buildings, Utilities, and Miscellaneous	Construction	Plans/Specs Supv. Const.	Total Dollars In thousands
Entr. U.S. 98 info./orient. ctr. (3,500 SF)	438	267	705
Marina buildings and store and shops (2,000 SF)	200	122	322
Marina boat slips (300) and courtesy dock (1,000 LF)	1,400	854	2,254
Marina maintenance building (7,500 SF) marina fuel (30,000 gal.)	200	122	322
Cultural center (15,000 SF)	1,500	915	2,415
Lodge (225 units)/clustered res. (100 units)	3,500	750	4,250
Public Safety Office (District Ranger office 400 sq. ft.)	740	340	1,080
General store (300 SF)	30	18	48
Day-use shelters (5) and vault toilets (4)	230	140	370
General maintenance building (20 x 50 SF)	75	46	121
Dry-boat storage miscellaneous building (20 x 50, 1,000 SF)	75	46	121
Employee housing (10 units)	500	250	750
Public launch courtesy dock (100 LF)	20	13	33
Tour boat dock (100 LF)	50	30	80
Water well and water storage (500,000 gals.)	450	274	724
Water distribution system	350	213	563
Sewage distribution system	275	167	442
Sewage treatment facility (100,000 gals/day)	2,364	1,512	3,876
Power distribution system and lighting	250	152	402
Telephone service	100	61	161
Signing/interpretation exhibits (LS)	100	61	161
Landscape and irrigation (5 acres)	150	91	241
SUBTOTALS	12,997	6,444	19,441
GRAND TOTALS	$19,989	$10,686	$30,675

C. ALTERNATIVE C - NO ACTION

Alternative C is the no action alternative. Under Alternative C, the traditional land uses of Antelope Point would continue. This includes the use of the site for general recreation, Navajo ceremonial purposes, and for the grazing and watering of cattle and sheep. Use of the area along State Route 98 as residential use as a temporary dry camp for the Navajo Generating Station would also be expected to continue.

No major new public or private investment in facilities would occur. Continued use of the end of the point for informal and unregulated camping, off-road vehicle use and other recreational uses would be expected to continue.

For a more detailed discussion of existing uses, refer to the existing conditions section of the document.

V. ALTERNATIVES CONSIDERED BUT REJECTED

The principal alternative considered, but rejected by the planning team, was the design of a larger marina facility containing more than 300 slips and/or buoy fields. This alternative was rejected because the physical constraints of the site and adjoining channel render infeasible a marina of significantly larger size. In addition, a larger marina could result in launch rates which would exceed Lake Powell's capacity to absorb the increased boating use.

Physical constraints of the site include the following:

The southeast one-half (approximately) of the embayment where the marina is proposed to be located is limited by shallow depths at low lake levels. Extensive blasting and dredging would be required to use this area for marina facilities.

A relatively narrow, deep channel offshore of the marina site restricts the space available for a buoy field.

The narrow channel upstream and downstream of Antelope Point would make boat safety a concern for launch rates significantly higher than those proposed.

Carrying capacity issues are presented in the discussion of the environmental impacts of The Proposal.

Should the present proposal be implemented, the resulting operational experience and impact monitoring, together with possible future marina design advances, may make it feasible to consider marina expansion in future planning.

A second alternative considered was design of larger-capacity lodging facilities. However, the size of lodging facilities is limited by economic feasibility constraints (demand) and the size of the marina associated with the lodging. The hotel size noted in the proposal corresponds to the maximum capacity consistent with room demand, as estimated in the 1983 Economic Feasibility Study;

it is also consistent with the designed marina size. The alternative of planning for additional hotel capacity in the initial planning cycle was therefore rejected.

However, the planning team notes that site space is provided in the development concept plan for a commercial housing development. If warranted by economic considerations, the amount of allocated commercial housing could be exchanged for additional lodging capacity without materially affecting the site's development concept. In addition, implementation of the proposal could generate sufficient new demand to warrant expansion of lodging facilities in a future planning cycle.

VI. ENVIRONMENTAL CONSEQUENCES OF THE PROPOSAL AND ALTERNATIVES

RATIONALE FOR PROPOSAL

The proposal was selected over the other three alternatives presented in the document for the following reasons:

1. The allocation of land uses within the site provides a good separation of management and development responsibilities.

2. There is appropriate and very adequate physical and visual separation between the proposed land uses.

3. The Proposal, along with Alternatives A and B provides economic benefits to the Navajo Nation. Even though there is minimal difference in the costs of The Proposal and Alternatives A and B, The Proposal offers better implementation.

4. Both public and private project proposals serve the visitor to Glen Canyon National Recreation Area and Navajoland.

5. The visitor to the Antelope Point area will obtain a better appreciation of Navajo culture.

6. The proposal provides the basis for continued cooperation between the National Park Service and Navajo Nation.

A. CLIMATE

Prevailing southerly winds at the site have been considered in the design and the siting of facilities, as, for example, in the positioning of campsites or buildings in relation to sand sources, and the positioning of the public launch ramp. Boat launching facilities, campsites, and day-use areas are believed to be favorably situated with respect to wind under all of the development alternatives.

B. AIR QUALITY

Visibility is affected on some days through the presence of regional haze and/or a locally generated plume. Preliminary monitoring data indicate that the regional haze may originate from metropolitan areas and smelters of southern Arizona, and metropolitan areas of southern California. It

is carried into the region through atmospheric long-range transport and reduces visibility. The local plume which affects visibility, results primarily from NO_x emissions of the Navajo Generating Station. It usually appears as a yellow-brown band in the lower atmosphere during winter, when air temperature inversions concentrate this material in a visible layer. Wood burning in Page fireplaces probably contributes to winter-time haze beneath inversion layers. None of the development alternatives would significantly affect air quality. On some winter days the visible plume from the generating station could have minor effects on views from Antelope Point to the north and east.

Disturbed surfaces should be watered or otherwise stabilized during construction, to reduce fugitive dust. Sufficient attention to dust control could reduce these emissions below current levels.

A local increase in gaseous emissions--carbon dioxide, hydrocarbons, and nitrogen oxides--is anticipated from the additional auto, truck, powerboat, and other internal combustion engine operations. Local air quality for gaseous pollutants including development of Antelope Point are well within the National Ambient Air Quality Standards (40 CFR, Part 50) presented in Table 5, (and the increases would be insignificant).

No emissions of ozone or sulfur dioxide would result from development.

Air quality in the area would remain unchanged under the No Action Alternative.

Table 5

National Ambient Air Quality Standards
(in micrograms per cubic meter of air)*

Pollutant	Time Period	Primary Standard	Secondary Standard
Total Suspended Particulate (TSP)	Annual	75	60
	24 hour	260	150
Ozone	1 hour	235	235
Sulfur dioxide	Annual	80	-
	24 hour	365	-
	3 hour	-	1,300
Nitrogen dioxide	Annual	100	100
Carbon dioxide	8 hour	10,000	10,000
	1 hour	40,000	40,000

*Source: Title 40 CFR, Part 50

C. GEOLOGY

Development Alternatives

Development of new facilities at Antelope Point will result in higher concentrations of visitors and greater use of the shoreline areas. As more people walk over the rock surfaces the sharpness of the differentially eroded crossbedding could be reduced over a period of years, diminishing the quality of an attractive natural feature of the site. This impact could be mitigated by establishing trails through the area.

The surface materials at both the gravel pit and the marina area will change if the gravel pit is used as a source of construction materials. After mining and reclamation of the pit, much less gravel will be present at the knoll, and its elevation may be lowered by as much as 20 to 30 feet. If the pit site is used to bury a water storage tank or similar facility, gravel equal to the displaced volume could be used in construction without lowering the elevation of the knoll. In any case, reclamation of the knoll would remove the existing open pit scar, enhancing the scenic quality of the area.

A small to moderate amount of rock may have to be leveled in limited areas to permit the construction of sound building foundations or other facilities. In absence of design plans, this effect cannot be quantified.

No Action Alternative

Basic landforms at Antelope Point would remain largely unchanged. Sandstone surfaces at the site will continue to sustain wear through unregulated vehicle use.

D. SOILS

Development Alternatives

Soils disturbed by construction (up to approximately 120 acres) would be subject to wind erosion unless stabilized by reclamation and revegetation as, for example, in landscaping around site facilities. Small amounts of soil loss would occur during construction. If disturbed areas are reclaimed after construction, then visitor controls during project operation may actually result in less soils impact than that presently occurring from unregulated off-road vehicle use.

Structures are not proposed on the alluvial deposit on the knoll as clay lenses are present through the deposit profile which could cause shifting.

Landscaping and construction in some locales could require the importing of soil to provide an adequate mantle. Landscaping needs might include an admixture of soils better than those at the site to support plant growth.

The planning area is presently affected by numerous vehicle trails resulting from years of unrestricted use. The trails are continuing to erode. If such areas are reclaimed or at least stabilized during development, general soil conditions may actually be improved under the development alternatives.

Areas of shallow soil at the site have little capacity to absorb runoff. This factor, in combination with the addition of impervious parking lots and other hard surfaces, could lead to excessive erosional soil loss and consequent sediments in the marina unless drainage from all surfaces is carefully planned during the design phase.

The irregularity of soil depth over the site would make depth sampling a desirable practice prior to the final placement and design of facilities.

A possible soil-related factor in the siting of campsites and day-use areas is the likelihood of blowing sand on breezy days. The development alternatives all minimize this factor by placing the campsites along the northern shore, away from sand accumulations.

No Action Alternative

Continued unregulated use of vehicles in the area would result in additional wind and water erosion as new tracks are made and more vegetation and desert pavement is disturbed. Erosion of existing vehicle trails would continue and worsen increasing soil loss.

E. WATER RESOURCES

Development Alternatives

Construction of the proposal would result in temporary surface disturbance on the 520 acres of development zone at the site (Map 8). Short-term, low-level increases in sedimentation rates along the lake shoreline would result from erosion of the disturbed areas. The accumulation of sediment is expected to be insignificant over the construction period, however, particularly if surface stabilization techniques were employed. Erosion of soil into lake waters should decline to current background levels or lower once disturbed areas were rehabilitated.

Ground water would be withdrawn from bank storage supplies in the Navajo sandstone in sufficient quantities to fill storage tanks at the site (300,000 gallons) and supply daily water requirements of the development (approximately 100,000 gallons per day). Ground water supplies would not be depleted because the lake would continually recharge the wells. Tests conducted prior to construction would determine the number of wells needed to ensure an adequate supply. The quality of the water supply would be monitored regularly to prevent any contamination from remaining undetected. Should unforeseen contamination occur, the condition would be corrected or a new supply developed.

The development proposal would result in the installation of sewage treatment facilities, fuel storage tanks, and storage tanks for waste oils and fuels in a new area very close to Lake Powell. Leaks, seepage, storm-induced washout of containment structures, or careless operating practices could all result in contamination of lake waters. In addition, porous sandstone substrates at the site make ground water vulnerable to contamination from the same sources. To mitigate such potential impacts, the sewage treatment facility and hazardous materials storage must be located and designed to isolate possible effluents from surface and ground waters. Methods used would include substrate sealing, drainage control, and provision of surface containment structures.

Antelope Point would be incorporated into Federal, tribal, and State hazardous spill contingency planning to provide for rapid containment and cleanup in the event of a spill.

A National Pollutant Discharge Elimination System Permit would not be required, as no discharges to the lake or other surface waters are proposed.

The proposal could have a variety of effects on water quality at shoreline camping points on Antelope Point and elsewhere along the lake. Although contamination of beach waters by human waste has not been documented at Antelope Point, neither has the area been adequately monitored for contamination under the current unregulated camping regime.

Observed accumulation of wastes along the shoreline leads to a presumption that contamination by human wastes could occur on the heavily used campsites and beaches. Implementation of the proposal would result in installation of regularly serviced vault toilets at the camping and day-use areas of the point. It is expected that the potential for unhealthful contamination of beach waters at Antelope Point would thus be reduced by the proposal despite an increase in visitors to the area.

Campsites or day-use points elsewhere along the lake would be subject to higher use under the proposed alternative (Navajo Canyon would probably receive a particularly great increase in use). Waters adjacent to these sites would potentially be affected by increased accumulations of waste during summer months. However, the potential for such impact was investigated during the Lake Powell Carrying Capacity Study (NPS 1982). Water contamination was not observed at such campsites even when human waste was present above the beaches. The moderate increases in shoreline camping resulting from the development at Antelope Point would therefore not be expected to affect water quality significantly. However, to make certain that the potential for adverse water quality effects from increased boating use remains low, public education efforts concerning the desirability of portable toilets on boats, together with water quality monitoring, is recommended.

Boat pump-out stations at the marina would be a potential source of contamination by sewage waste from boat holding tanks. Properly designed pump-out facilities and hose couplings would minimize contamination.

No Action Alternative

Under this alternative potential new sources of water contamination would not be introduced into the Antelope Point area.

Existing potential contamination from unregulated beach use without facilities would remain unchecked.

F. VEGETATION

Under the development alternatives, approximately 120 acres would be disturbed for the construction of facilities and roads. The vegetation affected would be primarily blackbrush-shad scale shrubland of sparse cover. The natural recovery of disturbed vegetation in this area would be extremely slow due to arid conditions and sandy, unstable soils. Therefore, care should be taken during construction to avoid disturbing land not actually needed for facilities.

Existing disturbances not included in developed areas should be reclaimed to a native vegetation as part of the development process. This would prevent progressive erosion and land damage, and would enhance the aesthetic characteristics of the site. To maximize the effective use and rehabilitation of the gravel pit, an approved excavation and rehabilitation plan will be needed prior to construction. The plan will emphasize use of native plant

species. The gravel pit would be reclaimed by the end of Phase I under any of the development alternatives.

No threatened or endangered plant species would be affected by the developments (Appendix A).

G. WILDLIFE

Development Alternatives

The proposed action and Alternatives A and B would each result in disturbance of approximately 520 acres of wildlife habitat and foraging areas. Rodents and reptiles would be the two principal groups affected. Most individuals would be displaced to adjoining areas or adapt to the new conditions. Broad-scale population effects would not occur.

Additional fishing pressure may be exerted on lake species in some areas, and minor amounts of spawning habitat could be lost where marina facilities are located, but these effects would be insignificant.

No threatened or endangered faunal species would be affected.

No Action Alternative

Wildlife and fish would continue undisturbed under the existing conditions noted in "Description of the Area."

H. EFFECTS ON LAKE POWELL

A carrying capacity study of Lake Powell in 1982 examined the relationship between the number of people using the lake in boats and the lake environment. It attempted to isolate the factors most strongly influenced by increasing numbers of people on the lake, and a model was developed to correlate boat launch rates from marinas with the resulting distribution of boats throughout Lake Powell. The model was used to estimate levels of use where boat numbers would become constrained by either the natural environment or safety. These estimated use ceilings are the "carrying capacity" of Lake Powell.

Factors found to be most significant to carrying capacity at present include: the number of shoreline campsites; the distribution of boats into the Escalante Canyon and Rainbow Bridge areas; the distance of destination zones from launch sites and services (gas); boat safety; beach invasion by tamarisk and consequent loss of campsites; beach fouling by human waste; archeological site damage; and the types of

boats launched (houseboats carry more people with fewer impacts on the lake than small boats).

The estimated launching capacity for downlake launch sites, including the Antelope Point development alternatives, are shown in Table 6. The capacities given in Table 6 for public launch ramps are based on observed physical capacities of the ramps. The figures assume that half of ramp activity will be launches and half will be take-outs. In practice, launch rates during peak periods can be higher than the figures given, since the majority of ramp capacity may be used for launches at the onset of long weekends. Daily launch rates from marina slips and buoys at Wahweap range over the year from 1 percent of boats to over 30 percent. The Table 6 rates for Wahweap are based on a daily launch rate of 25 percent of the boats at slips and buoys, which would be a maximum capacity rate for these boat sources. For Antelope Point, a range of launch rates is given of 25 to 33 percent of the proposed number of slips to account for a range in lengths of stay (3-day or 4-day averages). The Antelope Point public ramp launch rates in Table 6 assume construction of a 4-lane ramp under each of the development alternatives. If the average length of stay was 1-1/2 days for users of the public ramp, approximately 315 double parking spaces would be required to accommodate the expected number of vehicles with boat trailers.

Table 7 compares daily launch rates under several development scenarios with Lake Powell's carrying capacity for boating use as estimated in the carrying capacity study. The "natural" carrying capacity is dependent partly on the intensity of shoreline management. Existing management consists of lake patrols to ensure compliance with regulations, and monitoring of the condition of archeological sites accessible from the lake. Under these conditions Lake Powell's carrying capacity would be reached when downlake launches reach 1,230 boats per day. The existing launch rates during high-use months ranges between 550 and 650 boats per day. Currently approved Wahweap expansion would result in a rate of 976 boats per day.

Initiating new shoreline management programs to mitigate boat impacts on the lake environment would increase carrying capacity. For this reason the 1982 study estimated what the carrying capacity would be if such programs were initiated. The intermediate shoreline management scenario assumes tamarisk control on beaches, reduction of human waste impacts through public education efforts and the institution of new regulations, and a public education program to help control archeological impacts. These actions would increase

Table 6

Down-Lake Launch Capacities
(Boats per day launched)

	Wahweap/Lone Rock		Antelope Point	
	Existing Capacity	Proposed Capacity	Alternative A	Proposal and Alternative B
Public[1] Ramps	546	626	168	168
Rental[2] Boats	41	88	44-60	75-100
Slips/[2] Buoys	95	262	---	---
TOTALS	682	976	212-228	243-268

1. Public ramp capacities were calculated after the method used in the Lake Powell carrying capacity study; 80 percent of the physical ramp capacity is halved (on the assumption that one-half of the ramp activity is launches and one-half is take-outs) to yield launch rates, Wahweap, State Line, and Lone Rock are included. Worst-case launch rates for ramps could be obtained by doubling the figures on this line, which would assume ramps used only for launches during the entire 12-hour day.

2. At Wahweap, launch rates for rentals and slips/buoys were both assumed to be 25 percent. For Antelope Point a range is given, from 25 to 33 percent of slip spaces.

Table 7

Carrying Capacity and Development

(Down-lake launch rates[1], boats per day)

	Existing	Shoreline Management[2] Intermediate	Intensive	Safe boat density range Wahweap Bay 18 acres/ boat	9 acres/ boat
Lake Powell* Carrying Capacity	1230	1310	1630	1300	1890

*Adapted from Lake Powell Carrying Capacity Study, 1982.

	Existing	Existing plus Antelope Point Alt. A	Existing plus Antelope Point Proposal	Approved DCP, Wahweap	Wahweap DCP level plus Antelope Point Alt. A	Proposal
Maximum Down-lake launch rates	682	910	950	976	1219	1244

[1] Down-lake launch rates include Wahweap, State Line, Lone Rock, and Antelope Point.

[2] Capacities based on availability of acceptable shoreline sites for camping. See text for management scenarios.

lake carrying capacity to 1,310 daily downlake boat launches from 1,230 boats per day under existing management. Intensive shoreline management would include the intermediate programs and add a campsite permit system for heavily used areas such as the Escalante Canyon. Also, it assumes increased patrols to reduce archeological impacts and make beach management more effective. These actions would increase lake capacity to 1,630 daily downlake launches; a level that could begin to conflict with desired maximum safe boating densities in the open waters of Wahweap Bay.

As shown in Table 7, all of the currently approved developments down lake that involve boat launches are within the lake's estimated carrying capacity. The principal effect of the Antelope Point development on Lake Powell would be to raise the capacity for downlake boat launches up to, but not exceeding, the lake's estimated capacity to absorb such use under current management of the shoreline. Normally facility use at full capacity would only be expected during peak seasons. Nevertheless, these analyses indicate a need to consider additional management programs to alleviate boating impacts in concert with the phasing in of approved marina developments.

I. CULTURAL RESOURCES

All recorded archeological sites associated with the development will be treated under an approved treatment/mitigation plan prior to construction. This treatment/mitigation plan must be approved by the National Park Service, the Navajo Nation, and the Bureau of Indian Affairs in consultation with the appropriate State Historic Preservation Officer.

Nine of the eleven recorded archeological sites at Antelope Point would not be directly affected by the proposal. However, indirect effects on the nine sites may occur as a result of attracting more people into the area. Sites may be trampled, collected, or otherwise disturbed by visitors walking in the area or by people driving off-road in vehicles of various types. Once the development is opened to the public, regulations against unauthorized collection of artifacts and off-road vehicle use will be enforced.

Two recorded sites would be directly, significantly affected by all three development alternatives. One of these is a diffuse, 320-acre lithic scatter site associated with the quarry for raw stone materials used by prehistoric or historic peoples in tool and weapons manufacture. This site extends around much of the point along the shoreline and is

unavoidable. It is partially on National Park Service-administered lands. Alternatives A and B would result in less surface disturbance of land included in this site because these are the consolidated development alternatives and require 5 to 10 percent less surface area for facilities than The Proposal.

The second directly affected archeological site is located within the marina development zone. The specific, surveyed location of facilities could be arranged during the design phase of the Antelope Point development to avoid this site, a requirement common to all three development alternatives. The potential to avoid the site entirely would be more likely under The Proposal than under Alternatives A and B because fewer facilities would be concentrated in the marina zone. This affected site is probably one of the most significant recorded archeological sites on the point and is the only site believed to have potential for long-term occupation.

There is a need for an archeological survey of the roads and the entrance facility.

Under the No Action Alternative, all 11 sites would continue to experience occasional disturbance by the off-road vehicle traffic now prevalent on the point. These impacts are of considerably lesser intensity than the direct and indirect effects of development.

The development alternatives would preclude use of most of the Antelope Point beaches, which are within the Glen Canyon National Recreation Area, for traditional Navajo ceremonial rites. Much of the beach areas would actually be occupied by facilities, while most of the remainder would offer little or no opportunity for solitude once the development is in operation. However, at least one small, accessible embayment with a beach would remain, which could possibly be protected by fencing sufficient to offer solitude for ceremonial purposes. All three development alternatives are similar with respect to these impacts.

The American Indian Religious Freedom Act requires consideration of impacts on traditional Navajo ceremonial sites. An alternative ceremonial site(s) should be identified and a plan developed to ensure seclusion from marina-related activities and intruders. These procedures would be developed by the Bureau of Indian Affairs and the Navajo Nation in consultation with LeChee Chapter, the Navajo Medicine Man Association, and the Bureau of Indian Affairs with the concurrence of the National Park Service.

Under the No Action Alternative the availability and suitability of ceremonial sites at Antelope Point would not change.

In summary, The Proposal and Alternatives A and B could significantly affect certain archeological resources making site mitigation a necessity. The alternatives do not materially differ in this respect. Potentially affected sites must be thoroughly tested, collected, and mapped prior to construction if one of the development alternatives is selected.

Appropriate mitigation to protect the availability of ceremonial sites at Antelope Point would also be required, as determined by the Navajo Nation.

J. SOCIOECONOMIC IMPACTS

Effects on Employment

The proposal would result in an estimated 44 jobs becoming available in management, service, maintenance, and labor categories (exclusive of National Park Service staffing needs) for operation of the development after Phase I construction. Phases II and III of the development would create an additional 60 jobs (approximately). A significant number of the jobs would be seasonal.

Hiring for positions to be located within the national recreation area (below the 3,720-foot elevation) would be subject to Federal nondiscrimination and equal employment opportunity guidelines; hiring for positions located on reservation lands would conform to the laws of the Navajo Nation.

During construction, up to 50 temporary workers in skilled and unskilled labor categories would be required at any one time.

Effects on the Demand for Services

Implementation of any of the development alternatives would attract more people to the immediate area--both visitors and employees--who would require basic services such as medical care and protection (fire and law enforcement). The development--which would include onsite fire protection, law enforcement, and basic clinic facilities--would provide for most of these needs. However, there would be a small increase in the demand for these services, together with a need for space in schools which would have to be absorbed by surrounding communities. In the context of overall regional

growth, these impacts are not expected to be significant, particularly since many jobs at the site would probably be filled by existing residents. Service demands would be further mitigated by economic benefits to local communities resulting from the development. The community of LeChee is already experiencing difficulty in providing adequate services due to its high growth rate in the past decade. The Antelope Point Project would increase population growth pressures on LeChee even further, particularly in the area of housing demand.

Economic Effects

The proposal would result in local and regional investments totalling approximately $20 million. The venture would be expected to be profitable for the concessioner (Navajo Nation) and other parties sharing in revenues such as the developer and the LeChee Chapter. Although such benefits cannot presently be quantified they are likely to be substantial in the areas of increased retail sales, capital generation, and loan interest. Revenue distribution from the project would be dealt with during negotiation of the business site lease. Under Alternative A the potential economic benefits would be less, since the revenue-producing facilities would be sized about one-third lower than the proposal. However, capital costs would also be lower. Under Alternative B the development would be the same size as the proposal. However, its format of concentrated facilities would result in greater congestion, which could reduce the developments attractiveness and profitability in comparison with the proposal.

As with any capital investment project, there is some risk of failure in which case significant capital losses could be experienced by the concessioner and subcontractors. However, this risk is believed low, due to the evident demand for recreational facilities on Lake Powell and overall regional growth. The proposed project phasing would further reduce risks by allowing clientele and use demands to grow as the project is developed.

K. LAND USE

Development Alternatives

The proposal would not result in displacing any residents. It also provides for the continuation of existing uses.

Development of the project under The Proposal and Alternatives A or B would establish and develop the Antelope Point portion of the Lake Powell Navajo Tribal Park, and respond to the evident recreational demand on the Reservation.

The project would not directly affect Salt River Project's water intake facility, except that the road would become a shared access route. A mutually satisfactory road maintenance agreement may have to be devised between the Tribe and Salt River Project. The attraction of greater numbers of people to Antelope Point could lead to increased trespassing at the intake facility by the curious. Additional security may be needed.

Development of the project would result in an improved access road to the permanent homesite. The resident has requested the extension of utility services, from any systems built for development, to his home. Successful development of the project would require moving the temporary trailer residences at the junction of Highway 98 with Antelope Point road, to provide for an entrance station or information facility, as well as an attractive entry for visitors to the developed resort. The displaced residents would experience the inconvenience of moving to a new location. They would probably have to drive further to work, since most of these people work at the adjacent power plant. If a permanent trailer park were to be established at a new location these people may benefit from the change.

Livestock that drift into the Antelope Point area would be displaced by the development. However, the amount of forage lost would be less than that needed by one cow yearly (U.S. Bureau of Indian Affairs, Appendix B.), and the economic impact would be insignificant. Access to some of the more easily reached shoreline watering areas would no longer be available if the project is developed. The remaining shoreline outside the development zone should be reviewed to make certain continued access to water would be available or, alternatively, a stock tank could be provided in an area of good forage to the east. The development area and access road should be fenced to exclude livestock. Fencing of the access road--both sides--would protect animals from collision with vehicles.

Cattle guards will be installed at appropriate points to assist in keeping stock outside the development zone.

Along Antelope Point road, signs could indicate open range and caution visitors to watch for livestock on the roadway.

If the project is not developed land use would remain the same as noted in Description of the Area.

L. ANTELOPE ISLAND

Development Alternatives

Antelope Island would experience increased visitation and use under The Proposal and Alternatives A and B. This use would come from increased numbers of boaters anchoring at beaches along the island to hike, swim, fish, picnic, or camp. Such activities are permitted in this area and would generally be nondisturbing. They would not intrinsically conflict with the island's use as a Research Natural Area. In addition, the island is so close to the proposed Antelope Point launching areas that the great majority of boaters originating there would travel further on the lake to have a boat trip of more than a few minute's duration and would therefore not affect the island at all.

The potential for adverse effects exists, however, and use of the island should be regulated and monitored by the National Park Service. Small motorized vehicles could be transported to the island via houseboat, which would seriously affect the objective of preserving the island in its natural condition.

These impacts are not unique to the Antelope Point development. They could result from any of the planned developments which would increase the number of boats launched on the lake. The adverse impacts could be minimized through patrols of the island shoreline and the enforcement of regulations applicable to the National Recreation Area.

The three development alternatives would each have the same effect on Antelope Island.

Under the No Action Alternative visitor use of the island would still increase in concert with the expansion of existing downlake launch facilities. The increased use would be less than if Antelope Point was well developed, but the potential differences are not significant.

Figure 9

SUMMARY OF ALTERNATIVES

ALTERNATIVE	MARINA	LODGE	EMPLOYEE HOUSING PROVIDED	RESIDENTIAL HOUSING PROVIDED	SITE CONFIGURATION	PUBLIC FACILITIES
Proposal	250-300 slips	200-225 units with Cultural Center	Yes	Yes	Lodge complex and marina in two separate nodes. Also separate public launch.	Public launch and and courtesy dock. Day-use area with shelters. Toilets. 300-car parking area. Pedestrian trails. Overlook and picnic area.
A	150-175 slips	100-125 units with Cultural Center	None	None	Consolidated marina and lodge.	Public launch. Day-use area. Toilets. 200-car parking area. Pedestrian trails Overlook and picnic area.
B	250-300 slips	200-225 units with Cultural Center	Yes	Yes	Larger complex consolidated as Alternative B.	Public launch and and courtesy dock. Day-use area with shelters. Toilets. 300-car parking area. Pedestrian trails. Overlook and picnic area.
C (No Action)	None	None	None	None	Not applicable	No additional

VII. CONSULTATION/COORDINATION/COMPLIANCE

A. COMPLIANCE RESPONSIBILITIES

The following list represents compliance responsibilities which need to occur as part of this planning effort and other consultation/coordination/compliance activities which will occur subsequent to the plan approval. All activities will be included within the various in-house and public reviews. In some instances contacts and meetings have occurred during this planning effort.

1. American Indian Religious Freedom Act (P.L. 95-341) - Consultation with concerned individuals occurred during the archeological survey. The Medicine Man's Association was consulted on identification, evaluation, and recommendations concerning the religious sites and activities. Final coordination and clearances will be processed through the Bureau of Indian Affairs during the planning process and project implementation.

2. National Environmental Policy Act of 1969 (42 U.S.C. 4321) - Compliance with this act is being accompanied through this public planning process, and the environmental assessment, which is tiered upon the recreation area's general management plan/FES.

3. Section 106 of the National Historic Preservation Act of 1966 (16 U.S.C. 470), Advisory Council on Historic Preservation, and the Arizona State Historic Preservation Office - These offices will be involved throughout the planning project reviews and consultations. Since there are both Navajo Reservation and National Park Service lands involved, coordination will be accomplished by both the Navajo Nation and the National Park Service. The Bureau of Indian Affairs will coordinate clearances for the Navajo Nation.

4. Department of the Interior Regional Solicitor's Offices (Denver and Salt Lake City) - Coordination with these offices will be by the National Park Service concerning the legal aspects and advise for the project.

5. Bureau of Indian Affairs - The Bureau of Indian Affairs not only plays an important role during project input, but has major coordinating responsibilities in obtaining clearances with others as identified elsewhere in this section.

6. Bureau of Reclamation - The Bureau of Reclamation is being consulted during planning and will be asked to review the document as it relates to surface and subsurface water resources.

7. LeChee Chapter of the Navajo Nation - The Chapter is involved during the input, reviews, and implementation phases of the project.

8. Aids to Navigation - The National Park Service will coordinate with the U.S. Coast Guard as it relates to the planning and implementation of the appropriate aids to navigation. The Antelope Point marina will be designated a special anchorage area under Coast Guard regulations.

9. Section 404 Corps of Engineers - The National Park Service and the Bureau of Reclamation will coordinate with the Corps any clearances required for installation of the marina and boat ramps. This will be accomplished during the in-house and public reviews. Subsequent reviews will be required during the project design phases. When the developer submits design plans for any element within the water zone, a construction permit will be required from the Corps.

10. Section 7 of the Endangered Species Act of 1973 (16 U.S.C. 1531) - U.S. Fish and Wildlife Service - Input was obtained during planning; however, review and consultation will be required during the official project review periods. The Bureau of Indian Affairs will coordinate the necessary clearances for the Navajo Nation with the U.S. Fish and Wildlife Service. The National Park Service will concurrently submit similar documentation and request.

11. Navajo Medicine Man Association - The Association must be consulted during the input and review phases as related to the religious ceremonial sites and activities. This will be coordinated by the Navajo Nation.

12. Withdrawal of Lands - The Navajo Nation will need to appropriately withdraw lands directly associated with the project development from grazing use to recreation use. Once the development concept plan is approved, land surveys and determination of exact acreages need to be accomplished.

13. Executive Order 11988 "Flood Plain Management" - Even though the major development is not affected by any flood plain, there is a flash flood zone along a small section of the entrance road which needs to be determined and evaluated.

14. The project requires a continual dialogue and review between the Navajo Nation and the National Park Service. This has been accomplished and will require close coordination after approval during project implementation.

There will be other permits to be obtained after plan approval at the time of design documentation associated with the restaurant, drinking water, sewage treatment, and health and safety.

B. DESIGN PHASE PERMITTING

Project construction and operation would necessitate the acquisition of various Federal, tribal, and State permits, licenses, and inspections which would be applied for following the design of specific facilities. Inspections required for the final permitting of operations would be requested by the developer following construction. Among the permits required are the following:

U. S. Department of Defense, Army Corps of Engineers. Section 404 permit required for marina and launch ramp designs including cutting or filling in lakebed or shoreline alteration.

State of Arizona, Department of Transportation Right-of-way encroachment permit. Required to construct intersection of access road with Highway 98.

State of Arizona, Department of Public Health Services. Ground water Quality Protection Permit and Ground water withdrawal Permit. Required for surface water treatment facilities which might affect ground water, and for wells, respectively. Arizona would also exercise design approval authority and oversee monitoring of the public drinking water supply. This would apply to parcel B area, but not on Trust Land.

State of Arizona, Department of Health Services. A permit is required to store fuels, and State inspections must verify that fuel storage design is consistent with Federal (USEPA) and State guidelines for hazardous material handling. This would apply to parcel B area, but not on Trust Land.

Coconino County. Food service permits would be required for public eating establishments, as would compliance with regular food service inspections by a county sanitarian. This would apply to parcel B area, but not on Trust Land.

All construction buildings and their utility systems will meet or exceed county building codes. Inspection of structures will be conducted by appropriate authorities before the development becomes operational.

C. PUBLIC INVOLVEMENT/PROJECT REVIEWS

Early in 1984, the Navajo Nation and National Park Service began discussions and the preparation of the project task directive. This task directive concisely explained and directed how the Development Concept Plan for Antelope Point would be accomplished. This effort was in response to the Navajo Nation's desire and interest to resume planning on the Navajo sites contiguous to Glen Canyon National Recreation Area.

In accordance with the Memorandum of Agreement of 1970 the Navajo Nation and National Park Service jointly initiated the planning effort by establishing a closer dialogue and preparing the task directive which was approved in June 1984. Since June 1984, the following events have taken place:

Monthly meetings and planning sessions have been held between the Navajo Nation (Window Rock and LeChee Chapter) and the National Park Service. Other interests have been included during the various discussions.

A scoping brochure was released for public review and input from May through August of 1984.

Basic data, information, and input was assembled from August through December 1984.

A newsletter was released to the public in January 1985 on the status of the project.

Preliminary alternatives were formulated by January 1985.

In February 1985, the preliminary materials went through in-house briefings with the National Park Service Regional Director, Rocky Mountain Region; the Economic and Community Development Committee and the Advisory Committee of the Navajo Tribal Council in Window Rock; meeting with National Park Service Regional Director, Rocky Mountain Region and Navajo Tribal Chairman; and presentation to the Solicitor's Office in Denver. Other presentations were made in May to the Salt Lake City Solicitor's Office, National Park Service Regional Office staff; and National Park Service and Washington Office staff.

All in-house reviews by the Navajo Nation, the National Park Service, and other offices was completed July 1985. This document represents the culmination and resolution of the various input and comments so it could be released for public review.

VIII. LIST OF PREPARERS

Principals, National Park Service

Roy C. Slatkavitz, Team Captain, Chief of Park Planning, Rocky Mountain Regional Office

Ronald E. Everhart, Co-Captain, Concessions Management Specialist, Glen Canyon National Recreation Area

Keith Dunbar, Community Planner, Denver Service Center

Linda Hugie, Landscape Architect, Denver Service Center

Charles W. Wood, Natural Resource Specialist, Glen Canyon National Recreation Area

Pauline Wilson, Indian Cultural Liaison Aide, Glen Canyon National Recreation Area

Lori Kinser, Visual Information Specialist, Park Planning, Rocky Mountain Regional Office

Joyce Moe, Editorial Clerk, Park Planning, Rocky Mountain Regional Office

Principals, The Navajo Nation

Mike Nelson, Special Staff Assistant, Office of Chairman/Vice Chairman, Window Rock

Stella Saunders, Director of Economic Planning Department, Division of Economic Development, Window Rock

Frederick H. White, Program Manager, Navajo Tribal Park System, Division of Resources, Window Rock, Arizona

Richard G. Heyser, Director of Cultural Resources Department, Division of Resources, Window Rock, Arizona

Anthony Perry, Director of Commercial and Industrial Development Department, Division of Economic Development, Window Rock, Arizona

Nathan Begay, Economic Development Specialist, Commercial and Industrial Development Department, Division of Economic Development, Window Rock

Wilbur Hale, LeChee Chapter Manager, Page, Arizona

IX. CONSULTANTS

Ralph R. Root, Geologist, Geographic Information Systems Field Unit, Washington Office, National Park Service

James S. Holland, Natural Resource Specialist, Glen Canyon National Recreation Area

Larry Wiese, Chief, Division of Interpretation, Glen Canyon National Recreation Area

Anthony Klesert, Supervisory Archeologist, Navajo Nation, Window Rock

Tulsi Uprehy, Economic Planning Department, Window Rock

Robert Candelaria, Salt River Project, Page, Arizona

Jim Kindred, Cultural Affairs Consultant, Salt River Project, Page, Arizona

Jerry Jones, Information Specialist, Salt River Project, Page, Arizona

Jim R. Analla, Environmental Quality Services Officer, Bureau of Indian Affairs, Navajo Area Office, Window Rock, Arizona

Franklin R. Holian, Realty Specialist, Bureau of Indian Affairs, Navajo Area Office, Window Rock

Loretta A. W. Tsosie, Environmental Protection Specialist, Bureau of Indian Affairs, Navajo Area Office, Window Rock

Michael Andrews, Archeologist, Bureau of Indian Affairs/Navajo Area Office, Window Rock

Melinda Roth, Range Conservationist, Bureau of Indian Affairs, Western Navajo Agency, Tuba City, Arizona

Bill Fields, Native American Liaison, Southwest Regional Office, Sante Fe, New Mexico

Romeo Megalong, Engineer, Denver Service Center

Ramon Borras, Estimator, Denver Service Center

Leo Hudson, Council Delegate, LeChee Chapter

Herman Tso, President, LeChee Chapter, Page, Arizona

Mrs. Sally Young and Sons, Resident of Antelope Point area

X. PROJECT PRESENTATIONS AND REVIEWS

Other consultations, special presentations, and meetings other than the regular team meetings were as follows:

February 14, 1985	Presentation by the National Park Service staff to Navajo Nation Economic and Community Development Committee and the Advisory Committee of the Navajo Tribal Council in Window Rock
February 20, 1985	Meeting between Tribal Chairman Peterson Zah and Regional Director L. Mintzmyer in Albuquerque, New Mexico
February 26, 1985	Presentation by the National Park Service staff to Regional Solicitor Guy, Assistant Regional Solicitor Witham, and Regional Attorney Menefee in Denver
March 1, 1985	Presentation by the National Park Service staff to Acting Regional Solicitor Elliot in Salt Lake City
March 4, 1985	Presentation by the National Park Service staff to Regional Director L. Mintzmyer and regional office staff in Denver
March 6, 1985	Presentation by the National Park Service staff to National Park Service Acting Director and Washington staff in Washington
May 7, 1985 - June 26, 1985	Concurrent Navajo Nation/National Park Service in-house review. Copies went to each team member of the Navajo Nation, LeChee Chapter, National Park Service Offices, Office of the Solicitor in Denver and in Salt Lake City, Advisory Council on Historic Preservation, State Historic Preservation Office, Bureau of Indian Affairs, U.S. Fish and Wildlife Service, Bureau of Reclamation, Corps of Engineers, State of Arizona Highway Department, and Navajo Generating Station.

XI. REFERENCES

Arizona Game and Fish Commission. 1982. Threatened native wildlife in Arizona. Arizona Game and Fish Department Publ., p. 12.

Benallie, Larry, and Dennis Gilpin. 1985. The Antelope Point Survey with an ethnohistoric report of Antelope Point. U. S. Department of the Interior, Bureau of Indian Affairs, File Report. Environmental Quality Services, Window Rock, Arizona.

Harshbarger, J. W., C. A. Repenning, J. H. Irwin. 1957. Stratigraphy of the uppermost Triassic and the Jurassic rocks of the Navajo Country. U. S. Geological Survey Prof. Paper 291. Washington, DC.

Kidd, David E. 1975. Bacterial contamination of Lake Powell waters: An assessment of the problem. Lake Powell Research Project Bulletin No. 16. National Science Foundation/University of New Mexico, Albuquerque.

Lemmons, Robert. 1984. Personal Communication. Arizona Department of Game and Fish, Page (the incidence of reptiles).

Malespin, Melanie C. 1981. A baseline study of the rodents of Antelope Island. Master's Thesis, Utah State University, Logan.

Potter, Loren D. and N. B. Pattison. 1976. Shoreline ecology of Lake Powell. Lake Powell Research Project Bulletin No. 29. National Science Foundation/ University of New Mexico, Albuquerque.

Potter, Loren D., and N. B. Pattison. 1977. Shoreline surface materials and geologic strata, Lake Powell. Lake Powell Research Project Bulletin No. 44, National Science Foundation/University of New Mexico, Albuquerque.

U. S. Department of the Interior. 1979. General Management Plan, Glen Canyon National Recreation Area. National Park Service.

U. S. Department of the Interior. 1981. Carrying Capacity Study, Lake Powell, Denver Service Center, National Park Service. Files.

U. S. Department of the Interior. 1981. Development Concept Plan, Wahweap, Glen Canyon National Recreation Area. National Park Service.

U. S. Department of the Interior, 1983. Census Statistics, the Navajo Nation. Bureau of Indian Affairs.

U. S. Department of the Interior. 1983. Water Resources Data, Utah. Water Year 1983. U. S. Geological Survey. Salt Lake City.

U. S. Department of the Interior. Undated. Navajo Area, Tuba City Agency, District One Soil and Range Inventory. Technical Report. Bureau of Indian Affairs, Branch of Land Operations.

U. S. Environmental Protection Agency. August 1, 1984. Designation of Areas for Air Quality Planning Purposes; Attainment Status Designations; Arizona FR Vol. 40, No. 149, pp. 30697-30698.

Utah Division of Wildlife Resources. 1978. Species list of vertebrata wildlife that inhabit southeastern Utah. Pub. No. 78-16. p. 68.

Walther, E. G. , W. C. Maim, and R. Cudney. 1977. The excellent but deteriorating air quality in the Lake Powell Region. National Science Foundation, Lake Powell Research Bulletin No. 52.

Williams, R. Cudney, M.D., and W. C. Maim. Walther, E. G. National Science Foundation, Lake Powell Research Bulletin No. 3, 1974. Air quality in the Lake Powell region.

XII. LIST OF THOSE WHO RECEIVED DOCUMENT FOR PUBLIC REVIEW

This list will be completed after public review.

XIII. APPENDICES

A. CONSULTATION ON THREATENED AND ENDANGERED SPECIES

B. MEMORANDUM OF AGREEMENT - 1970

C. THE LECHEE CHAPTER RESOLUTION

D. SUGGESTED PROPOSAL FOR PUBLIC SAFETY SERVICES

APPENDIX A

CONSULTATION ON THREATENED AND ENDANGERED SPECIES

United States Department of the Interior

BUREAU OF INDIAN AFFAIRS

Western Navajo Agency
P. O. Box 127
Tuba City, Arizona 86045-0127

IN REPLY REFER TO:
Real Property

February 4, 1985

Mr. Charles W. Wood
Natural Resource Management Specialist
Glen Canyon National Recreation Area
P. O. Box 1507
337 North Navajo Drive
Page, Arizona 86040

Dear Mr. Wood:

This correspondence concerns land use and threatened and endangered species in the Antelope Point development proposal area. Our conclusion is that development will not conflict with local land users or residents.

The attached list identifies all threatened and endangered plant and animal species in our area. In reviewing the habitat requirements for each, it is unlikely that any endangered plant species occur at Antelope Point. The perigrine falcon and bald eagle may reside or migrate through the general area. It is our recommendation that all these species be mentioned in the Environmental Assessment.

In talking with LeChee Chapter representative, Mr. Tommy Tsosie, the Chapter has had several public meetings concerning the proposed development. All area land users have given their consent to the project by signing a resolution developed locally. The Chapter further feels that there is no need to compensate anyone for any inconvenience or lost grazing land. The nearby resident, Glen Young, moved into the area knowing of the proposed development. Forage lost would be less than that needed by one cow yearly. According to Mr. Tsosie, the Antelope Point area is not used specifically for grazing, but livestock drift there from the east where forage is of greater quality and quantity. The area to the east offers sufficient forage and watering points and development and enclosure of the Antelope Point area would not cause hardship to local land users. For your information, Dan and Pearl Begay use the area to the east for livestock grazing. Their permit #1-1339 for 55 sheep units yearlong including 3 horses. Their brand is CIB.

We hope this information is adequate for your analysis of land use and impacts concerning the Antelope Point proposal. If you should need more information, please contact Melinda Roth, Range Conservationist at (602)283-4531, Ext. 250 or FTS# 762-4250.

Sincerely,

Agency Superintendent

Attachment

Species listed under the Endangered Species Act found in Arizona (Western Navajo Agency):

1. Humpback chub (Gila Cypha) - ENDANGERED - found in the Colorado and Little Colorado Rivers in the Grand Canyon.

2. American peregrine falcon (Falco Peregrinus Anatum) - ENDANGERED - statewide in migration. Resident in areas of tall cliffs near water.

3. Bald eagle (Haliaeetus Leucophalus) - ENDANGERED - residents or migrants along rivers and major reservoirs statewide. Nests near water, requires large trees or rock cliffs for nesting.

4. Black footed ferret (Mustela Nigripes) - ENDANGERED - probably extirpated in Arizona. Once found in Northeast quarter of the state in grassland areas. Closely associated with prairie dog towns.

5. Brady pincushion cactus (Pediocactus Bradyi) - ENDANGERED - Kaibab limestone/Moenkopi shale soils in North Coconino County.

6. Peebles Navajo cactus (Pediocactus Peeblesianus var. Peeblesianus) ENDANGERED - near Holbrook, Navajo County on gravelly soils.

7. Siler pincushion cactus (Pediocactus Sileri) - ENDANGERED - Northwest and North Central Arizona in Mohave and Coconino Counties. Extends into Southern Utah. Desert scrub vegetation on gypsiferous soils.

Species proposed for listing under the Endangered Species Act found in Arizona (Western Navajo Agency):

1. Sedge (Carex Speciucola) - THREATENED - population in small springs at Navajo National Monument on Navajo Indian Reservation.

UNITED STATES GOVERNMENT

memorandum

TE: JUL - 1 1985

TO OF: ACTING
Area Director, Navajo Area

CT: Section 7 Coordination, Antelope Point Development Concept Plan/ Environmental Assessment, Glen Canyon National Recreation Area

TO: Regional Director, Rocky Mountain Region
National Park Service

Attached for your information and inclusion in the environmental assessment for the Antelope Point Development Project are copies of the Threatened and Endangered Species Biological Assessment; and a formal letter of concurrence in the assessment from U. S. Fish and Wildlife Service, Ecological Services Field Supervisor.

This should fulfill the requirements for compliance with the Section 7, Endangered Species Act of 1973, as amended for this proposed undertaking.

If we can be of further assistance in this matter, please call Mr. Jim Analla, (602) 871-5151, extension 5314 or FTS 479-5314.

Attachments:
Biological Assessment
Letter of Transmittal
USF&WS Letter of 6/24/85
Map of Navajo Reservation-WNA

OPTIONAL FORM NO. 10
(REV. 1-80)
GSA FPMR (41 CFR) 101-11.6
5010-114

☆U.S. Government Printing Office: 1980—341-526/6255

UNITED STATES GOVERNMENT

memorandum

ATE: MAY 31 1985

TO ACTING
OF: Navajo Area Director

ECT: Biological Assessment, Antelope Point Development Project, Glen Canyon National Recreation Area, Navajo Nation - National Park Service

TO: Gilbert Metz, Field Supervisor, Ecological Services, U. S. Fish and Wildlife Services

Attached for your information is a copy of the draft Development Concept Plan/Environmental Assessment for Antelope Point, a recreational development proposed by the Navajo Nation and the National Park Service and located within the Glen Canyon National Recreation Area.

Our Western Navajo Agency (WNA) office developed the list of potential T&E species (Antelope Point Development Concept Plan/Environmental Assessment; Appendix A) known to exist within WNA. If your office has knowledge of other T&E species which may inhabit the Antelope Point Site and have not been included in this list, please provide us with that information.

Also included for your review is a biological assessment pursuant to Section 7 of the Endangered Species Act of 1973, as amended, for those species which have been identified as having potential habitat in Western Navajo Agency.

We respectfully request a written response with your concurrence in our assessment and any comments which you may feel appropriate. If you have questions please contact Jim Analla at FTS 479-5314, Window Rock, Arizona.

/s/ FRED THOMPSON, JR.

Attachments

OPTIONAL FORM NO. 10
(REV. 1-80)
GSA FPMR (41 CFR) 101-11.6
5010-114

☆U.S. Government Printing Office: 1980—341-526/6255

BIOLOGICAL ASSESSMENT
(Section 7, Endangered Species Act of 1973, as amended)
MAY 1985

Antelope Point Recreational Development
Navajo Nation - National Park Service

(Prepared by the Bureau of Indian Affairs, Navajo Area Office, Window Rock, Arizona - May 24, 1985)

Introduction

The Bureau of Indian Affairs, Western Navajo Agency (WNA) office, Tuba City, Arizona, provided to the National Park Service a list of T&E species which are known to exist within WNA. Those species are as follows:

Humpback chub (Gila cypha)
American peregrine falcon (Falco peregrinus anatum)
Bald eagle (Haliaeetus leucocephalus)
Black-footed ferret (Mustela nigripes)
Brady pincushion cactus (Pediocactus bradyi)
Peebles Navajo cactus (Pediocactus peeblesianus var. peeblesianus)
Siler pincushion cactus (Pediocactus Sileri)

The draft Antelope Point Development Concept Plan/Environmental Assessment which is included as part of this biological assessment more fully describes in detail the proposed undertaking. This document also describes the flora and fauna which have been identified at the proposed project site (Sec. II; K & L, page 20).

Proposed Action

The Navajo Nation and Glen Canyon National Recreation Area share a lengthy common boundary along the south shore of Lake Powell.

In 1970, a Memorandum of Agreement outlining mutual responsibilities in developing and managing the common areas was signed by the Navajo Nation, the National Park Service, Bureau of Reclamation, Bureau of Indian Affairs and the Secretary of the Interior. This Agreement recognized the Navajo Nation's desire to develop areas contiguous with Lake Powell for recreational use and provided for cooperative planning, administration and development of recreation sites.

The National Park Service's General Management Plan (GMP) for Glen Canyon National Recreation Area designated six potential

development sites on the south side of Lake Powell. A subsequent economic feasibility study (1983) concluded that Antelope Point is the most feasible of the six development sites from an economic standpoint.

The Navajo Tribal Council has recently decided to proceed with the planning and ultimate development of recreational facilities at Antelope Point. This decision has lead to the preparation of the development concept plan and environmental assessment for the proposed undertaking.

The Bureau of Indian Affairs, in fulfilling its mandated trust responsibility role, as signatory to the Memorandum of Agreement and the recognized Federal land manager for Indian trust lands has accepted responsibility for assuring compliance with Section 7 of the Endangered Species Act of 1973, as amended, for this undertaking.

Impact Assessment

Those species (T&E) listed are species which are known to occur at various locations throughout the Western Navajo Agency (map enclosed). Western Navajo Agency is extensive, encompassing an area from Interstate Highway 40 (I-40) to the south to Lake Powell at the north; and from approximately U. S. Highway 89 on the west to the central part of the Navajo Indian Reservation on the east. Within the specific Antelope Project area (710± acres) which includes the area to be developed (520 ± acres), none of the listed species are known to exist. The habitat within the project area is not conducive (soils, terrain, lack of prairie dog colonies) to supporting the listed species. Previous flora and fauna inventories conducted for the Navajo Generating Station Final Environmental Impact Statement and its appurtences (located 2.5 miles to the south) and the Glen Canyon National Recreation Area General Management Plan Final Environmental Impact Statement also failed to identify existence of any listed T&E species as being present in this area.

Since the proposed development area does not provide habitat for any of those T&E species listed, and none of the listed species have been located at the project site, it is determined that the proposed action will not affect any listed threatened or endangered species.

305

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE

Ecological Services
2934 W. Fairmount Avenue
Phoenix, Arizona 85017

June 24, 1985

Memorandum

To: Navajo Area Director, Bureau of Indian Affairs, Window Rock, AZ

From: Field Supervisor

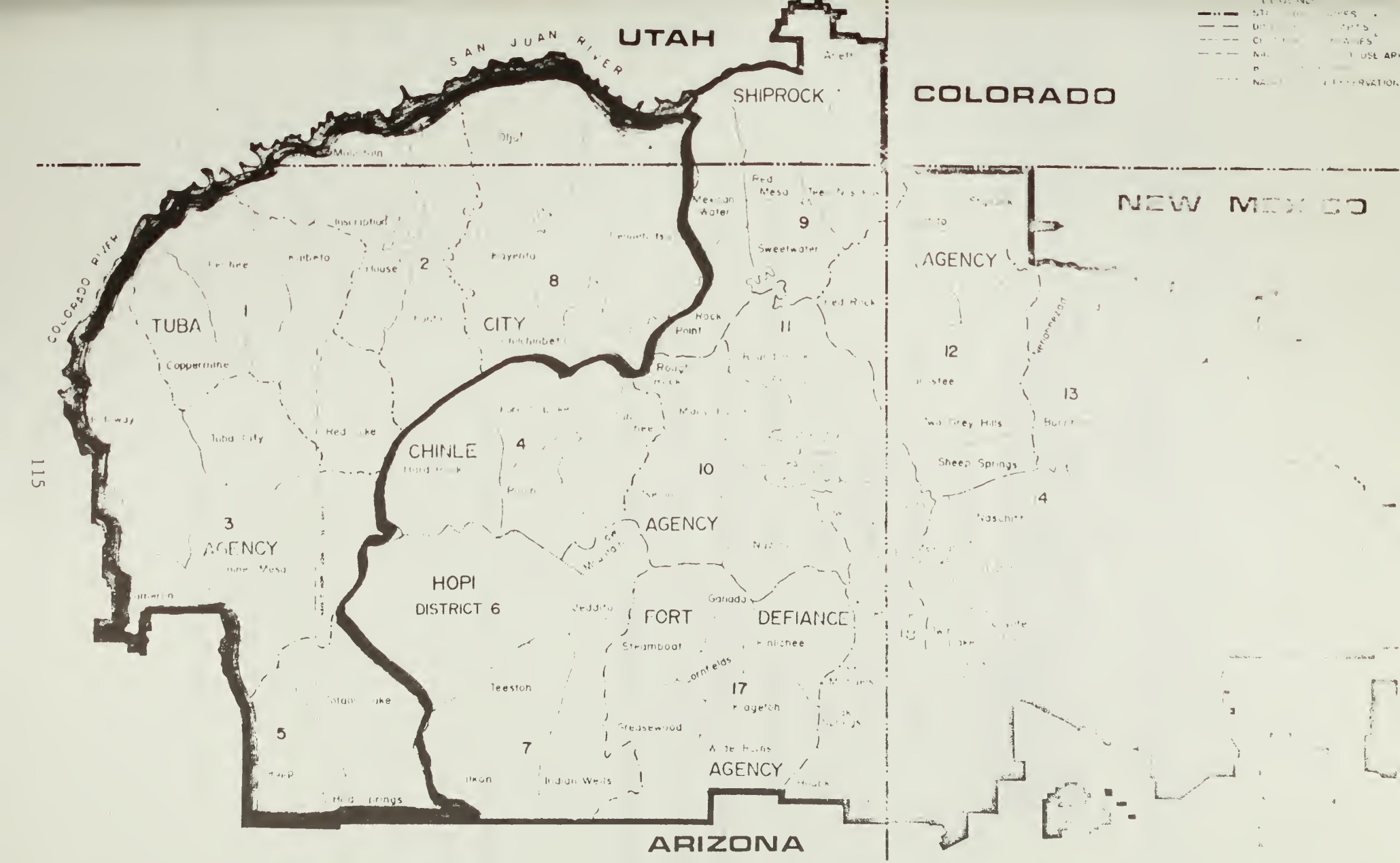
Subject: Antelope Point Development Project, Navajo Nation - National Park Service

This is in response to your request for our concurrence with the biological assessment prepared for the subject project. Since our records indicate that none of the species covered in the assessment occur in the project area, we concur that implementation of the proposed project will not affect any listed or proposed threatened and endangered species.

If you require further assistance, please call this office at (602) 241-2493 or FTS 261-2493.

Gilbert D. Metz

cc: Director, Arizona Game and Fish Department, Phoenix, AZ
Regional Director, FWS, Albuquerque, NM (AHR)
Regional Director, FWS, Albuquerque, NM (SE)



NAVAJO TRIBAL CHAPTERS

APPENDIX B

Memorandum of Agreement Among the National Park Service, the Bureau of Indian Affairs, the Bureau of Reclamation, and the Navajo Tribe of Indians, Relating to the Use and Development of the Glen Canyon National Recreation Area and Adjacent Tribal Lands.

MEMORANDUM OF AGREEMENT AMONG THE NATIONAL PARK SERVICE, THE BUREAU OF INDIAN AFFAIRS, THE BUREAU OF RECLAMATION AND THE NAVAJO TRIBE OF INDIANS, RELATING TO THE USE AND DEVELOPMENT OF THE GLEN CANYON NATIONAL RECREATION AREA AND ADJACENT TRIBAL LANDS

This Memorandum of Agreement entered into pursuant to the Act of August 25, 1916 (39 Stat.535, as amended; 16 U.S.C.1), the Act of August 7, 1946 (60 Stat.885; 16 U.S.C.17j-2), June 17, 1902 (32 Stat.388, 43 U.S.C., Sec. 391 et seq) and acts amendatory thereof or supplementary thereto, among the NAVAJO TRIBE OF INDIANS, here referred to as the Tribe, the NATIONAL PARK SERVICE, here referred to as the Service, the BUREAU OF INDIAN AFFAIRS, here referred to as the Bureau, and the BUREAU OF RECLAMATION, here referred to as Reclamation;

W I T N E S S E T H:

WHEREAS, the waters impounded behind the Glen Canyon Dam, known as Lake Powell, and certain surrounding lands are administered, among other purposes, for public recreation as the Glen Canyon Recreation Area, here referred to as the Recreation Area; and

WHEREAS, the Service is administering the Recreation Area under the terms of an agreement dated September 17, 1965, with Reclamation and approved by the Secretary of the Interior on September 24, 1965; and

WHEREAS, the Navajo Indian Reservation is contiguous with the south boundary of the Recreation Area, and under Section 2 of the Act of September 2, 1958 (72 Stat. 1688), lands transferred to the United States from the Navajo Indian Reservation may not be utilized by the United States for public recreational facilities without the approval of the Navajo Tribal Council and said lands shall be here referred to as "Parcel B lands;" and

WHEREAS, the lands transferred to the United States by Section 2 of said Act of September 2, 1958, no longer constitute "Indian country" and may not be utilized by the Tribe for recreation or related purposes without approval of the United States; and

WHEREAS, the Navajo Indian Reservation is contiguous to certain portions of the Recreation Area and the Navajo Tribal Council is desirous of developing certain portions of the Navajo Indian Reservation contiguous to the Recreation Area for recreational use and said recreational sites shall be here referred to as "Navajo Sites;" and

WHEREAS, there is need for coordination and cooperation between the parties in providing for the recreational use, development, and administration of that portion of the Recreation Area contiguous with the Navajo Indian Reservation:

NOW, IT IS MUTUALLY AGREED BETWEEN THE PARTIES THAT:

1. Tribe and Service will jointly administer and develop Parcel "B" lands and that portion of Parcel "A" land below elevation 3720 lying Northeast of Antelope Creek that lie within the Recreation

Area and are contiguous to the Navajo Indian Reservation. All further reference herein Parcel "B" land shall be deemed to also include that part of the Parcel "A" land above designated. The recreational facilities to be jointly developed and administered by the parties to this contract shall include the construction of, but not be limited to, roads, trails, picnic areas, marinas, docks, ramps, utilities and other structures needed in connection with recreation use and enjoyment. Joint administration and development of the portion of Parcel "A" lands mentioned above is subject to legislative action yet to be considered by Congress.

2. That portion of the Navajo Indian Reservation lying contiguous, but in no event in excess of one mile from Parcel "B" lands may be devoted to recreational use as Navajo Sites pursuant to this agreement. The Service agrees to participate in the planning, developing, and maintenance of nonincome producing facilities and shall provide technical advice and assistance which will lead to the preservation and recreational enjoyment of the historical and recreational resources associated with Navajo Sites. This assistance by the Service shall include that portion of Lee's Ferry located within the Navajo Indian Reservation that shall be devoted to recreational use and said lands shall be considered a Navajo Site. The Tribe agrees that it shall assist and cooperate with the Service in developing those portions of the Navajo Indian Reservation devoted to recreational use pursuant to this agreement. The development of those portions of the Navajo Indian Reservation devoted to recreational use pursuant to this agreement shall be developed in accordance with a long-range management and development plan for the Recreation Area mutually approved by the Tribe

and the Service.

3. Wherever in this agreement the Bureau, Reclamation, or the Service is referred to, the term shall include the duly authorized representatives of these agencies, and wherever the Tribe is referred to, the term shall include the duly authorized representatives of the Navajo Tribe of Indians.

4. The Tribe is authorized to construct, contract for, and manage all income-producing facilities on Navajo Sites and on Parcel "B" lands, excluding the Rainbow Bridge concession area. All such operations by or on behalf of the Tribe are here referred to as Tribal concessions or concessioners. It is agreed that all facilities must conform to the overall development plan of the Recreation Area; therefore, all plans for income-producing facilities will be subject to written approval by the Service. Income-producing facilities may consist of services related to recreational use, such as, but not limited to, lodges, motels, eating establishments, grocery stores, souvenir shops, and boating services. It is understood that the Service has contracted with concessioners, here referred to as Service concessioners or concessions, within the Recreation Area and other facilities within the Recreation Area other than on Parcel "B" land and Navajo Sites, and neither the Tribal nor Service concessioners can infringe upon the contractual rights and responsibilities of the other.

5. It is agreed that, with the written approval by the Service for the sole purpose of assuring that all facilities conform to the development plan of the Recreation Area, the Tribe may constru

on Parcel "B" lands and Navajo Sites noninccme-producing recreational facilities.

6. The Tribe and Service will administer the facilities, installations and services operated within Parcel "B" lands as outlined in a management and development plan to be written and approved by both the Tribe and the Service. The Service will be responsible for the day-to-day management for recreational use of Parcel "B" Lands and Navajo Sites. However, the Service and the Tribe will cooperate in establishing the basic policies to assure that all such lands are developed for optimum recreational use to the extent possible.

7. The Service is authorized to use Parcel "B" lands and any Navajo Sites contiguous to Parcel "B" lands for the construction of recreational facilities such as roads, trails, picnic areas, marinas, docks, ramps, utilities and other structures mutually agreed to be needed in connection with recreational development and use.

Such uses include reasonable access by the Service to Rainbow Bridge National Monument from Lake Powell. In the event that in the future, public access to Rainbow Bridge is required across Tribal Reservation lands, the Tribe will grant a suitable easement, the terms of which will be negotiated.

8. The right of first preference in employment will be offered to enrolled members of the Tribe in the Recreational Area contiguous to the Navajo Reservation as provided for and subject to §701(b) and 703(i) of the Civil Rights Act of 1964 (78 Stat. 241, 253, 257; 42 U.S.C. §§2000e(b) and 2000e-2(i)). The Service will encourage and assist members of the Tribe to qualify for positions

in the Recreation Area which are established pursuant to Civil Service regulations.

9. The Service agrees, to the extent that appropriated funds and personnel are available therefor, to grant to the Tribe consultative or advisory assistance in the planning of Tribal facilities or developments.

10. It is understood that certain Tribal lands adjacent to Parcel "B" lands may be required for the construction of Tribal concession facilities, in that Parcel "B" lands may not be suitable for such construction. In such event, the Tribe and the Bureau will submit to the Service a proposal, together with a map and description of parcels of Navajo Sites required to be used in conjunction with the Parcel "B" lands, and upon approval by the Service, such Navajo Sites will be devoted to recreational use pursuant to this Agreement.

11. The Tribe and the Service, within the framework of legal authority, will cooperate in controlling public use of Parcel "B" lands and Navajo Sites. This cooperation between the Tribe and Service will be specified in the management plan for the Recreation Area. Nothing herein, however, is intended to modify or in any manner affect the legal status of the Tribe, its courts and members of the Tribe, as exists under law.

12. Nothing in this agreement shall deprive the Tribe or any of its members of any rights, privileges, and remedies available by law.

13. The parties will cooperate and assist in any effort by the Tribe to obtain grants or loans and to provide information relative

to the Tribe's eligibility under any existing Federal programs for grants or loans for recreational development purposes on Parcel "B" lands and Navajo Sites.

14. The parties will cooperate and assist in Indian training programs for the purpose of improving understanding between representatives of all parties in the fields of interpretation, conservation, fire protection, search and rescue, historical programs, and fields of that nature, the objective of which is to improve the knowledge of Indians and enhance their employment opportunities.

15. The Tribe, the Bureau and the Service will, from time to time, advise each other of their desires, plans and programs concerning the overall development of the Recreation Area. Representatives of the Bureau, Service and the Tribe will meet at least once each year to review mutual objectives and programs and to consider other matters of mutual concern which affect the development, protection and management of the Recreation Area.

16. The parties agree to seek such benefits for the Recreatio Area as are obtainable under the provisions of the Land and Water Conservation Fund Act of 1965.

17. This agreement shall remain in effect for a term of 50 years subject to renewal for an additional 50 years by the parties concerned, but any part or parts thereof may be amended or modified by mutual consent in writing at any time.

18. Lake Powell is constructed and operated as a unit of the comprehensive development of the water resources of the Upper Colorado River Basin for the purpose, among others, of regulating the ~~Colorado River basin for the purpose, among others, of regulating the~~

flow of the Colorado River and storing water for beneficial consumptive use. The fulfillment of some of these purposes requires that the level of the Lake be fluctuated to meet use demands and Reclamation reserves the right to vary the water level to the extent necessary and desirable for the purposes of project operation.

19. The Tribe grants to Reclamation access, which shall be mutually agreed to between the Tribe and Reclamation, over such Tribal lands as necessary to install or reach data-gathering equipment required for operation of the reservoir, and also grants Reclamation permission to conduct surveys across Tribal lands bordering the reservoir area that will include but not be limited to horizontal and vertical control surveys, sedimentation studies, and groundwater studies.

20. The Tribe, its employees, concessioners and contractors, shall not discriminate because of race, religion, color, or national origin against any person by refusing to furnish such person any accommodation, facility, or service offered to or enjoyed by the general public. The Tribe shall include and require compliance with a provision similar to the one contained in this subsection in any subcontract made with respect to the operations authorized hereunder.

21. The Tribe will prepare and forward to the Service at the close of each calendar year a report of the public use of Tribal facilities in the Recreation Area, and the Service will furnish a report to the Tribe of public use at the Recreation Area.

22. Due to the fact that there is no road access to Padre Point and other potential Tribal development sites on the south shore, Tribal concessioners will have the right to pick up and discharge cargo and pre-registered passengers at facilities owned and operated by Service concessioners until such time as a road to that particular site is completed. Specific or special arrangements and a charge will be mutually agreed upon in advance between concessioners, subject to approval under concessioner contracts.

23. The Tribe recognizes that marina facilities have already been constructed and are in operation by the Service at Rainbow Bridge and that such facilities are anchored to Parcel "B" lands near Rainbow Bridge, and hereby approves the use of such lands by the Service and its concessioners for such purpose. Provided that the Service will seek and actively support legislation to transfer to the Tribe the annual franchise fee negotiated between the Service and the concessioner of the Rainbow Bridge concession complex. The Tribe also reserves the right to examine all information provided by the concessioner to the Service relating to the financial operation of the Rainbow Bridge concession complex. The Tribe shall also have the right of consultation with the Service in all future contract reviews and/or negotiations as they pertain to the Rainbow Bridge concession complex.

24. It is understood that this agreement is subject to cancellation by the Tribe in the event that authority is not obtained to transfer the franchise fee referred to in Paragraph 23, above, to

the Tribe.

IN WITNESS WHEREOF, the parties hereto have hereunder subscribed their names and affixed their seals.

THE NAVAJO TRIBE OF INDIANS

May 13, 1970
Date

By _____
Chairman, Navajo Tribal Council

THE UNITED STATES OF AMERICA

April 6 - 1970
Date

By _____
Director, Southwest Region
National Park Service

BUREAU OF INDIAN AFFAIRS

May 13, 1970
Date

By _____
Area Director, Navajo Area Office

BUREAU OF RECLAMATION

April 29, 1970
Date

By _____
Regional Director, Region 4

APPROVED: SEP 11 1970

_____
Secretary of the Interior

APPENDIX C

The LeChee Chapter Resolution for Initiating Comprehensive Growth Plan for the Community of LeChee and its Surrounding Areas

The LeChee Chapter
District One, Navajo Tribe
P. O. Box 1257 Page, Az. 86040

June 17, 1985

Mr. Micheal T. Allison, Director
Division of Economic Development
P.O. Box 308
The Navajo Nation
Window Rock, Arizona 86515

Dear Mr. Allison:

I have recently conversed with Mr. Nathan Begay in reference to Antelope Point Resort/Recreation Development and our proposal, as a Chapter, to develop and implement a long-term growth plan for the community of LeChee and its surrounding areas; including the corridor area leading to Antelope Point.

The Chapter has recognized the need for such a plan since 1981 when it established a land-use planning board; this group was not able to acquire the funds needed to hire a technical assistant or a planner and thus their effort discontinued at a later date.

This effort was revitalized in 1983-1984, when the Chapter formally initiated the planning process by Resolution-LCR26: 10/84 (see attached copy); the Chapter also proposed for the funding of this planning project to the Chapter Development Department and the Community Development Block Grant Program but these requests were not successful. Currently, the Chapter is pursuing other funding sources for the development phase of this planning project.

The need for a growth plan is based on the social and economic impacts which the Chapter residents and their environment have experienced during the following major developments in this area: 1.) the construction of the Glen Canyon Dam and the inception of the City of Page: 1957-1959, 2.) the creation of Lake Powell Recreational Area: 1972 and 3.) the construction of the Navajo Generating Station: 1969-1975. During these periods the Navajo labor force has influxed and settled into camps near the Page-Navajo Reservation boundaries, and the residents of Page have repeatedly tresspassed onto the reservation areas, mainly for off-road recreational purposes. The settling and trespassing of these residents have, in turn, created undue hardships on the local grazing land-users of the area.

The development of Antelope Point area will definitely bring in another wave of these settlers and trespassers. Therefore, to alleviate another impact, it is appropriate and logical to begin a comprehensive land-use planning for the community of LeChee and its surrounding areas, including the corridor area to Antelope Point (see attached map of the proposed land-use planning area).

As previously mentioned, the Chapter is currently pursuing other sources of funding so it can begin the development phase of this planning project; these funds will be largely used to pay for the consultant/planning services of a planner who will assist the local land-use planning board for a period of one year. The board will then implement the plan which will be basically financed by lease rental returns from the Antelope Point Development, as well as returns from other prospective economic development projects in the area.

With that as a background and our planning objective in mind, the Chapter has made the following two requests (Chapter meeting of May 20, 1985 - Request to Division of Economic Development).

1) That you and your staff recognize and support our effort in the development and the implementation of the Chapter comprehensive land-use planning project. Also that this objective be communicated to all prospective developers of the Antelope point Resort/Recreation Development. We believe that their support and involvement is vital since they will be our "neighbors." Financial and/or technical assistance for this planning project should be one of the requirements in the Request for Proposal guidelines.

2) That a report be made and submitted, both orally and in writing, on the overall progress of the Antelope Point Resort/Recreation Development, on a bi-monthly basis. This will include all development activities related to this project such as the proposal reviews, selection process, etc.

We believe that the Chapter's proposed growth plan will enhance the benefits and returns, e.g., income and employment from the Antelope Point, as well as other prospective developments in the area. The plan is also a means of efficiently using our local resources, as land-use is a key issue in our Tribal society today.

Your consideration and prompt action of these requests will be greatly appreciated.

Respectfully,

Herman Tso

cc: Peterson Zah, Chairman
The Navajo Nation

Roman Bitsui, Chairman
Economic & Community Development Committee

Nathan Begay, Economic Development Specialist
Chapter Officials
Chapter File

The Le Chee Chapter

District One, Navajo Tribe

P. O. Box 1257 Page, Az. 86040

R E S O L U T I O N

LCR 26: 10/84

SUBJECT: Initiating Comprehensive Growth Plan for the Community of LeChee and its Surrounding Areas.

WHEREAS:

1. LeChee is a certified (1955) Chapter of the Navajo Nation and that,

2. Before the 1950's, nearly all of the Chapter residents lived in the rural, grazing areas of the Kaibeto Plateau and subsisted on the livestock economy and that,

3. Between 1953 and 1978 the following major development and employment centers evolved adjacent to the Chapter boundary: Glen Canyon Dam, City of Page, Wahweap Recreation Area, and Navajo Generating Station and that,

4. This caused an in-migration of most of the Chapter resident along with a large number of the Navajo labor force to, settle at or near these centers and that,

5. Today, the Chapter is comprised of: A) a community, also named LeChee which is located just south of Page, Arizona and B) 272,840 acres of grazing unit area which is bordered by the City of Page, Lake Powell, Colorado River and the Kaibeto and Coppermine Chapters and that,

6. One of the key issues of the Chapter is the lack of an orderly growth plan for the LeChee community. This has created several major problems including: A) homesite and business-site lease disputes, B) insufficient and inadequate infrastructural facilities e.g. housing, roads water, etc., C) limited services and facilities for all segments of the population, e.g. recreation, education, etc. and D) trespassing and settling of non-Chapter residents on the local grazing unit areas without approval and that,

7. These problems will continue to persist and become larger as several more new economic development projects are projected for this area. One of these is the Antelope Point Resort/Recreation complex along the shores of Lake Powell and that,

8. One of the goals of the Chapter is to meet these growth needs/problems and one of the objectives in meeting this goal is developing and implementing a comprehensive growth plan. (See Prospectus in Appendix) and that,

9. The Chapter has approved (official Chapter: August 20, 1984) to propose for funds to the Community Development Block Grant (CDBG), which will be used to develop and implement the comprehensive growth plan and that,

10. The Chapter has contacted and scheduled two (2) outside sources which will guide and enhance the initial stages of the overall planning process. (See Appendix for letters)

)W LET IT BE RESOLVED:

1. The Honorable Chairman Peterson Zah, the Planning Department - Division of Community Development, the Economic Development and Planning Committee and the Advisory Committee recognize and support the initiating and the continuing effort of this Chapter in developing and implementing a comprehensive growth plan for the LeChee community and the surrounding areas.

2. The Chapter will proceed with Step #3: Establish Planning Board/Commission, of the Tribal Planning Process. (See Appendix).

3. The Chapter continue to schedule and finance any technical and/or educational workshops at the initial stages of the planning process.

4. The Chapter develop and submit a proposal to the Community Development Block Grant under the title: LeChee Comprehensive Plan and Economic Feasibility Studies, by October 19, 1984.

C E R T I F I C A T I O N

WE HEREBY CERTIFY THAT THE FOREGOING RESOLUTION was duly considered and moved for adoption by Ms. Orlinda Douglas and seconded by Mr. Fulkey Haswood both members of the LeChee Chapter and are voting members. The subject was thoroughly discussed and approved by a vote of 38 in favor and 0 opposed, on 5th day of November, 1984, at a scheduled meeting at the LeChee Chapter house.

Mr. Leo Hudson, Sr.,
Council Delegate

Mr. Tommy M. Tsosie,
Vice-President

Mr. Herman Tso
President

Mr. Allen Tsinigine
Secretary-Treasurer

LeChee Comprehensive Land-Use Planning Process

October 22, 1984

1. Recognition of Need for Coordinated Plan:

   A. Natural Resources (coal, uranium, etc.)
   B. Community Growth Potentials.
   C. Developmental Activities (roads access, utilities, housing, etc.)
   D. Land Jurisdiction (leasing, grazing, homesites, right-of-ways, etc.)
   E. Other needs (health, education, etc.)

2. Resolutions Stating the Need for Coordinated Plan to:

   A. Chairman of Navajo Tribal Council
   B. Planning Department/DCD
   C. Economic Development and Planning (ED and P) Committee

3. Establish Planning Board/Commission

   A. General planning process explained
   B. Planning Board/Commission elected by Chapter resolution

      1) Resolution process as #2 above.

   C. Plan of operation explained
   D. Establish community planning area

4. Conduct Community Analysis

   A. Community Inventory

      1) Social-Cultural
      2) Economics
      3) Physical
      4) Environmental

   B. Technical Assistance

      1) Planning Department/DCD
      2) Other Tribal Departments
      3) BIA
      4) IHS
      5) NTUA
      6) Other relevant agencies

Chapter President
Herman Tso

Vice-President
Tommy M. Tsosie

Secretary-Treasurer
Allen Tsinigine

Tribal Council Delegate
Leo Hudson, Sr.

Business Phone
(602) 698-3272

C. Conflict identification and need assessments (Priorities)

5. Develop Normal Goals and Objectives Based on Community Analysi

A. Goals related to six (6) categories

1) Public Facilities
2) Residential
3) Commercial
4) Industrial
5) Quasi-Public (cenetary, churches, sewer lagoons, etc.)
6) Open Space (parks, agricultural, greenbelts, etc.)

6. A. Formulate a Comprehensive Land-Use Plan

A. Land Use. . . . . .Planning Area
B. Transportation. . . . . .Vehicle Circulation
C. Environment. . . . . Quality, vistas
D. Economics. . . . . Employment, commercial
E. Demographic. . . . . Population
F. Social-cultural. . . . . Values
G. Residential. . . . . Housing
H. Human Resources. . . . . Community services
I. Open Space. . . . . .Parks/Recreation
J. Rural/Urban Design. . . . . .Community Plan

B. Develop five (5) economic feasibility studies.

7. Documentation Completed and Approved by Chapter

A. Review and/or revise planning documents

1) With community involvement

B. Approval of documents by planning board/commission
C. Approval of documents by chapter

8. Finalization of Planning Documents

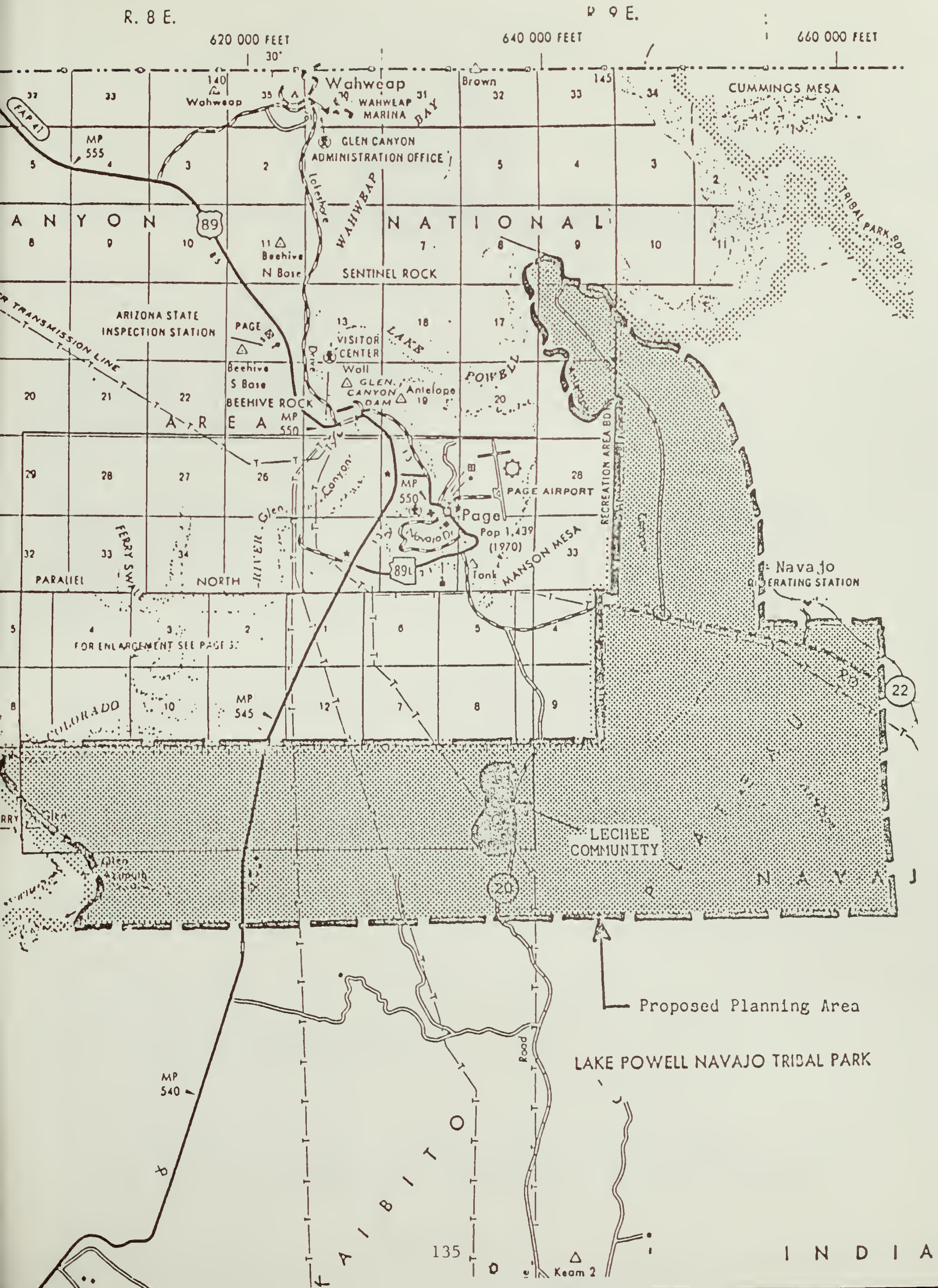
A. Approval by the ED and P Committee
B. Approval by the Advisory Committee

9. Implementation

A. Generate Funds (staffing, projects, etc.)
B. Work with all technical assistance (#4-B above)
C. Work with all elected officials, Chapter sub-committees, and community at large.

10. Revise and Update Plan at Least Yearly.

A. Keep community informed of changes and program.
B. Progress reports to appropriate agencies and committees.



R. 8 E.
R. 9 E.
620 000 FEET
640 000 FEET
660 000 FEET
Wahweap
WAHWEAP MARINA
BAY
GLEN CANYON ADMINISTRATION OFFICE
Brown
CUMMINGS MESA
TRIBAL PARK BDY
ANYON
NATIONAL
AREA
89
WAHWEAP
Beehive N Base
SENTINEL ROCK
ARIZONA STATE INSPECTION STATION
TRANSMISSION LINE
PAGE
Beehive S Base
BEEHIVE ROCK
VISITOR CENTER
Wall
GLEN CANYON DAM
Antelope
LAKE POWELL
PAGE AIRPORT
Page
Pop 1,439 (1970)
MANSON MESA
RECREATION AREA BDY
Navajo
GENERATING STATION
89L
Tank
PARALLEL
NORTH
FERRY SWALE
RIVER
COLORADO
FOR ENLARGEMENT SEE PAGE 3
MP 555
MP 550
MP 545
MP 540
22
20
LECHEE COMMUNITY
NAVAJO
Proposed Planning Area
LAKE POWELL NAVAJO TRIBAL PARK
KAIBITO
Road
Keam 2
INDIA

APPENDIX D

Suggested Proposal for Public Safety Services at Antelope Point and Surrounding Communities

THE NAVAJO NATION
WINDOW ROCK, NAVAJO NATION (ARIZONA) 86515

PETERSON ZAH
IRMAN, NAVAJO TRIBAL COUNCIL

EDWARD T. BEGAY
VICE CHAIRMAN, NAVAJO TRIBAL COUNCIL

July 01, 1985

7/3/85

John P. Ritenour, Chief Park Ranger
Glen Canyon National Park Services
Post Office Box #1507
Page, Arizona 86040

Dear Mr. Ritenour;

Attached for your review and consideration is a revised copy of the "Proposal For Public Safety Services at Antelope Point Development and Surrounding Communities" as promised. I trust that you will route the attached to the appropriate authority and make certain that the proposal is referred to in the Overall Development Plan for Antelope Point as an appendix. In addition, I would appreciate a copy of your rewritten portion on law enforcement services as a result of the CORE Group meeting of 27 June 1985.

If for some unforeseen reason you happen on to two copies of the Overall Development Plan for Antelope Point, please sent a copy to me so that I may review and prepare myself for any questions during the public review process.

I feel that it would be appropriate to schedule another meeting with the various members of the law enforcement community again to discuss law enforcement functions above and below the 3720 ft. National Boundary line. I want everyone concerned with law enforcement services to understand the jurisdictional issues below the 3720 ft. National Boundary line. If there is a specific date you have in mind for this meeting, please call and let me know.

If there are any questions, please do not hesitate in contacting me at (602) 871-4212 or 4228.

Sincerely,

Henry C. Manuelito, Management Analyst
Navajo Division of Public Safety

ATTACHEMENTS

cc: Jonas Hubbard, Jr., Colonel, Navajo Division of Public Safety
Mike Nelson, Special Staff Assistant, Office of the Chairman/Vice Chairman
Duane H. Yazzie, Staff Assistant, Office of the Chairman/Vice Chairman

PROPOSAL FOR
PUBLIC SAFETY SERVICES
AT
ANTELOPE POINT DEVELOPMENT
AND
SURROUNDING COMMUNITIES

I. INTROUDCTION

The Navajo Nation's Police, Fire, Detention, Emergency Medical Services and Resource Enforcement Agency; the National Park Service; Arizona Department of Public Safety; Coconino County Sheriff's Office; Bureau of Indian Affairs Law Enforcement Services and the Federal Bureau of Investigations met on Wednesday, June 26, 1985 to collectively discuss anticipated needs and requirements for the proposed development at Antelope Point.

II. THE ANTICIPATED NEED

The collective body of representatives mentioned above all felt that in order to effectively provide basic law enforcement, fire and rescue and emergency medical services for the proposed development at Antelope Point, there is a dire need for a centrally located Multi-Purpose Public Safety Building. This building would house the functions of Police Services, Fire and Rescue Services, Adult Detention Service, Emergency Medical Treatment Services and possibly a courtroom. In addition to the Adult Detention Facility, there would be a need for a Juvenile Detention Facility, as Federal and State Law prohibits the housing of juveniles with adults. Each function lists their anticipated manpower, office and storage space requirements below.

The purpose for such a Multi-Purpose Public Safety facility is to provide basic public safety services for the anticipated visitors to Antelope Point as well as services for the surrounding community. Each function lists their anticipated manpower, office and storage space requirements below and the functions would be combined into one Multi-Purpose Public Safety Facility.

A. Emergency Medical Treatement

This facility would need at least three (3) examination rooms, a large emergency room, office space to accommodate one (1) doctor, two nurses (RN or LPN) a staff of nine to ten Emergency Medical Technicians working varying shifts and storage space to adequately store medical supplies and other materials. In addition to this facility, provisions should be made to build a helicopter pad whereby serious accident victims and/or patients would be air lifted to hospitals in major metropolitan areas. The helicopter pad should have proper facilities to maintain and repair the helicopter. Considerations should be given to night rescue operation which would require proper lighting.

Other necessities for the Emergency Medical Treatment Facility would be ground transportation. It is anticipated that to start with, there would be a need for a minimum of two (2) fully equipped ambulances to respond to calls for service not only in the immediate Antelope Point area, but also up and down State Highway 98, tending to traffic accidents and other related emergencies.

The facility must be built to allow for additional construction to expand as the need arises. It is anticipated that the Emergency Medical Treatment services overflow from the Wahweap Area as well as from the entire Glen Canyon National Recreation Area particularly during the peak tourist season.

B. Fire and Rescue Services

This facility would need at least 7,000 square feet to adequately house 10 rooms of various sizes, a classroom/conference, kitchen/dinning area, day room, bunkrooms, supply rooms, storage area (equipment) and truck bays (see attachments A & B). This facility must also be built with the intention of future expansion as the need arises.

Other necessitities includes, depending on the anticipated calls for fire services, vehicles at a minimum:

1. Rescue units with small pump. (1)

2. Pumpers, 750 gallons, Class A and C. (2)

3. Staff/Command units. (2)

It is anticipated that the Navajo Nation Fire and Rescue Services Department will work with the developers of the Antelope Point area to ensure that all anticipated structures would meet National Fire Building Codes and relevant Tribal ordanances relating to fire safety as well as ensuring there is adequate water for fighting fires.

C. Law Enforcement Services

This facility would need to house at least five (5) Navajo Police Officers and one (1) Police Sergeant, ample storage of equipment, ample storage for seized evidence, conference room, and interview rooms. Also, office space would be needed for the Coconino County Sheriff's Office, the Arizona Department of Public Safety, the Tribal Resource Enforcement Agency, the Arizona Game and Fish Department, the Bureau of Indian Affairs Criminal Investigations as well as ample storage space for equipment and seized evidence, and suitable interview rooms for interrogation purposes. Office space for the other law enforcement agencies can be shared.

The Navajo Police Department would need at least 3 to 4 police vehicles, preferably 4x4 Blazers and/or Suburban type vehicles. These vehicles would be used to patrol the Antelope Point area as well as other areas up and down state highway 98, the LeChee Chapter and the Kaibeto Chapter area.

This facility should also be built with the intention of future expansion as the need arises. In addition, there should be classroom space provided to conduct necessary training for search and rescue operations and other types of training as required.

This facility would be operational 24 hours a day and would need the required space to house a sophisticated radio communication system whereby all law enforcement, fire and rescue services, and emergency medical services could be centrally dispatched. The central dispatch system must have enough space for a large radio console (multi-channel), recording devises, close circuit television system, CRT units for wants and warrants checks, space for at least 2 to 3 dispatchers per shift, and telephone communications. Since this central dispatch system would be operational 24 hours a day, people would need to have access to the location so that dispatchers would be able to provide the necessary information upon request as well ad dispatch the ambulance, police or fire personnel as required.

D. Detention Services (Adult)

This facility would need to be designed as a medium security holding area for both adult males and females, which meets the standards set by the American Correctional Association and other state and federal standards. The facility should be equipped to detain at least 25 males, 10 females people at one time and accommodate adequate detention personnel on a 24 hour basis to monitor and supervise the inmates. Ample storage space for food supplies and a kitchen and dining area will also be needed, as well as restrooms and separate showers for both males and females. In addition, storage for the inmates property as well as a laundry room and with anticipated room for eventual expansion. The prisoners would then be relayed to either the Tuba City Detention Facility or the Coconino County Sheriffs Office in Flagstaff, Arizona for arraignments, and long term detention.

E. Detention Services (Juveniles)

This facility would have to be built separate and away from the Adult Detention facility and would require the same needs and space as the Adult facility. It would be necessary to study the new Tribal Childrens Code and the state juvenile code to adequately address what would be needed for this facility.

F. Courtroom Facility

This type of facility should be considered for future development.

G. Housing Quarters

Adequate housing must be provided for personnel of the Navajo Tribe's Police, Fire and Rescue, and Emergency Medical Services as well as the National Park Services. One critical problem on the Navajo reservation is the shortage of adequate housing for families irregardless of whether

they are Police, Fire or Emergency Medical personnel. Therefore, provisions for housing of public safety personnel somewhere within the immediate area should be considered as an anticipated need.

III. CONCLUSION

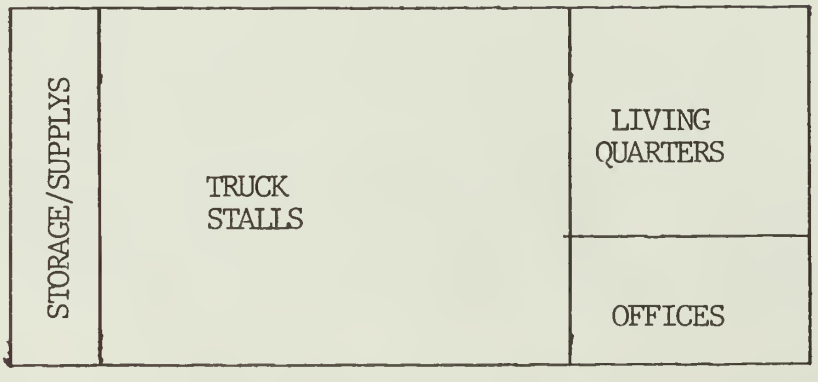
In any type of development for cities and/or communities, there must be provisions for planning for basic services such as police, fire & rescue, detention and emergency medical services. This proposal is very general and lists basic needs for a multi-purpose public safety building and for anticipated manpower and equipment needs. The respective law enforcement agencies and other supportive public safety functions has a very basic goal which is to protect lives and property of the Navajo people and visitors. The building of a multi-purpose Public Safety Building would provide the mechanism to achieve that basic goal and make everyone's visit to the Antelope Point area a safe and enjoyable visit.

NAVAJO NATION

I. Fire & Rescue Services	Offices for Employees
A. Admin.	3
B. Operations land & water	2
C. Enforcement/Prevention	2
D. Training	1
E. Supply	1
F. Vehicle/Equipment Maint.	
G. Communication (Dispatch)	1 office for 3 Dispatchers (Shift)

- FLOOR SPACE REQUIRED -

			SQ. FT.
Offices	10' x 12' x 10 each	=	1,200
Classroom/Conference	16' x 30'	=	480
Restrooms/Showers	24 Hrs. Personnel	=	480
Kitchen/Dining		=	620
Day Room		=	240
Bunkroom (Male)		=	480
Supply Room		=	480
Storage Area (Equipment)		=	400
Truck Bays (Rescue;Ambu;Pumpers)	16 x 40 x 4 veh.	=	2,560
			6,940



*Approx. Figures for Antelope Point Resort Development.

II. Personnel (Manning Trucks)

A. Pumper : 4 firefighter per 24 hour shift x 3 shifts = 12

B. Rescue Vehicle: 2 firefighter per 24 hour shift x 3 shifts = 6

C. Water Fire/Rescue

D. Officer; Operations (Available for Emergencies) 2

E.

*F. *Additional Office Employees (8 to 5 workers) 9
secretary, enforcement, trng, supply, dispatch

III. Trucks

*Depends on fire load, but minimum should be:

A. Rescue with small pump----------one each

B Pumper 750 Class A----------two each

C. Staff/Command Units----------two each

NAVAJO NATION FIRE & RESCUE SERVICES

DIVISION OF PUBLIC SAFETY

FIRE PROTECTION

The Antelope Point project shall comply with applicable Uniform Building Code; National Fire Protection Associations Fire Standards, NFPA Life Safety Code 101. The project construction and operation(s) shall comply with applicable fire and safety codes and standards.

The Navajo Nation, the Fire & Rescue Services and other enforcement agencies shall coordinate with the developer so that provisions are made to render the project construction and the operation safe.

Fire and Rescue Services (suppression, prevention, rescue operation) shall be provided on all land area within the Antelope Point project area. This shall encompass a fire station facility(s), fire suppression equipments, rescue equipment and all other special equipment required for the project area. Staffing/manning of equipment and facility shall be sufficient for the operations (suppression/rescue (land and water), prevention).

FIRE PROTECTION

The Navajo Nation Fire & Rescue Services Department will coordinate efforts to provide fire prevention, protection and suppression services on all land area within the Antelope Point project area. Fire suppression equipment should be acquired when construction is started by the Navajo Nation in cooperation with the parties to be engaged in the resort business enterprise.

The reason for development of a fire station and the purchases of fire trucks and equipment are for certified paid firefighters to handle anticipated emergencies, during the development and upon completion of the development of the project area, includes but are not limited to:

1. Fire Incidents (structural, vehicles, boats, brush fires, etc.)
2. Medical Emergencies (accidental & natural cause)
3. Accidents (vehicle, boats, planes)
4. Rescue (lost persons, civil disorders)

These emergencies can lead to loss of life or limb, minor or major injuries, property loss or damage. The needs require that a fire station facility be available to accomodate emergency personnel on-duty (24-hours) a day with firefighting and rescue vehicles/equipments and supplies on hand. The fire station facility must be located to provide immediate aid within a period of three to five minutes time with paved road access to all areas from two directions.

The fire station facility would need at least 7,000 square feet for 10 firefighters, classroom/conference room,kitchen/dining area, dayroom, bunkroom, supply room, storage area (equipment) and truck bays. This facility must also be built with the intention of future expansion as the needs arises.

The fire suppression and rescue vehicles required at a minimum levels of:

1. 2 Pumper, 750 GPM
2. One Rescue/Pumper Unit
3. 3 Staff/Command Units

The vehicle need is based on the fire load (structures, combustibles) anticipated at any given time.

To avoid or reduce considerable loss of personal property or other direct or indirect loss such as personal income or business loss, these emergencies risk must be dealth with at or from the project area.

Another entity or community cannot be expected to handle those emergencies which are out of their jurisdiction or city limit.

The proposed fire and rescue service needs are based on what are anticipated, issues expressed by federal, state or tribal offices and experienced by the Navajo Nation Fire & Rescue Services personnel on the Navajo Reservation and adjoining Indian Country.

The project developer, when developing the project, shall comply with the Uniform Building Code, electrical and NFPA Life-Safety Code 101, standards and codes adopted by the state and other applicable tribal, county, state and federal laws within the State of Arizona.

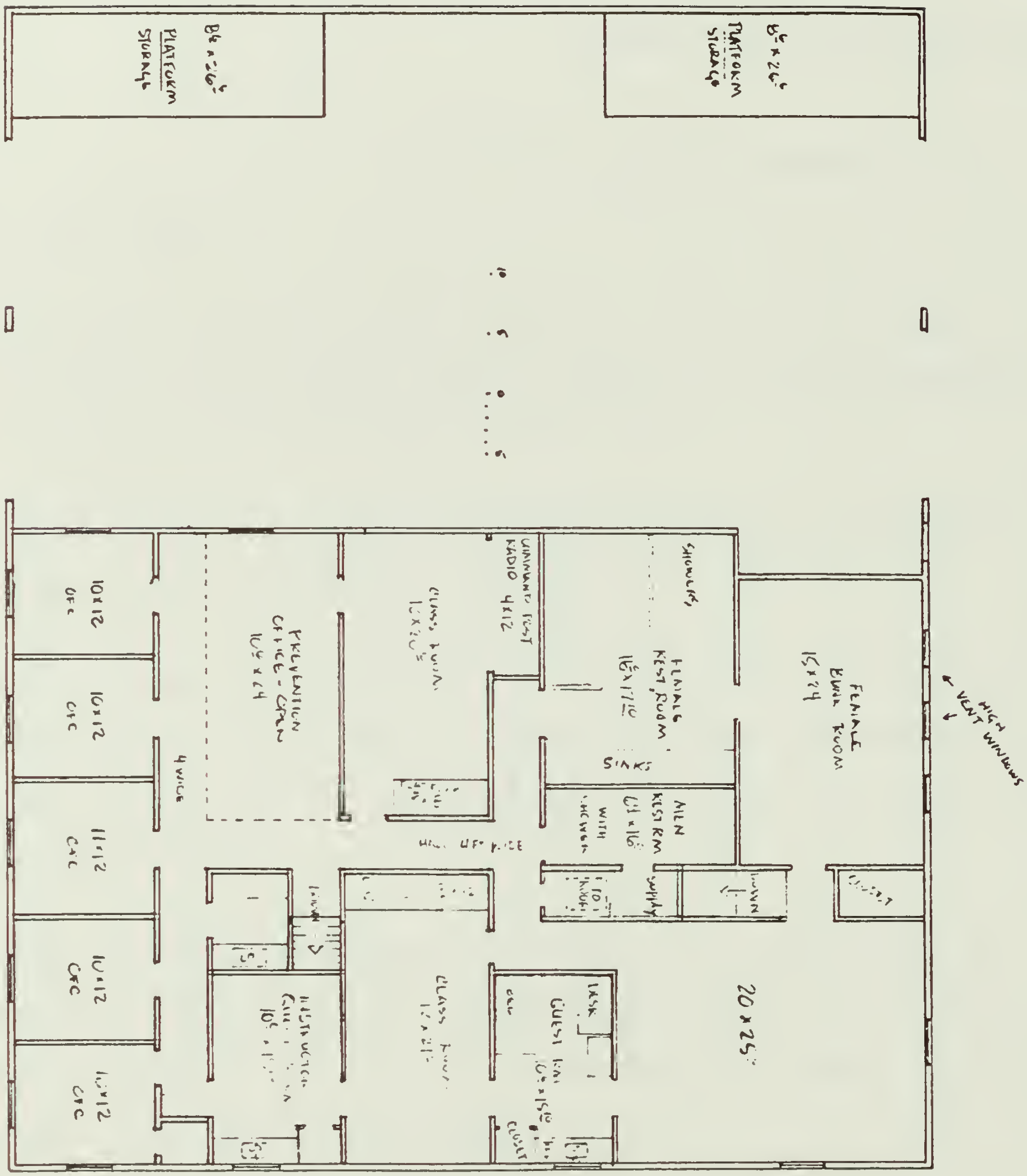
Personnel: The personnel assigned will provide and maintain a 24-hour service. The minimum number of fire and rescue personnel per vehicle:

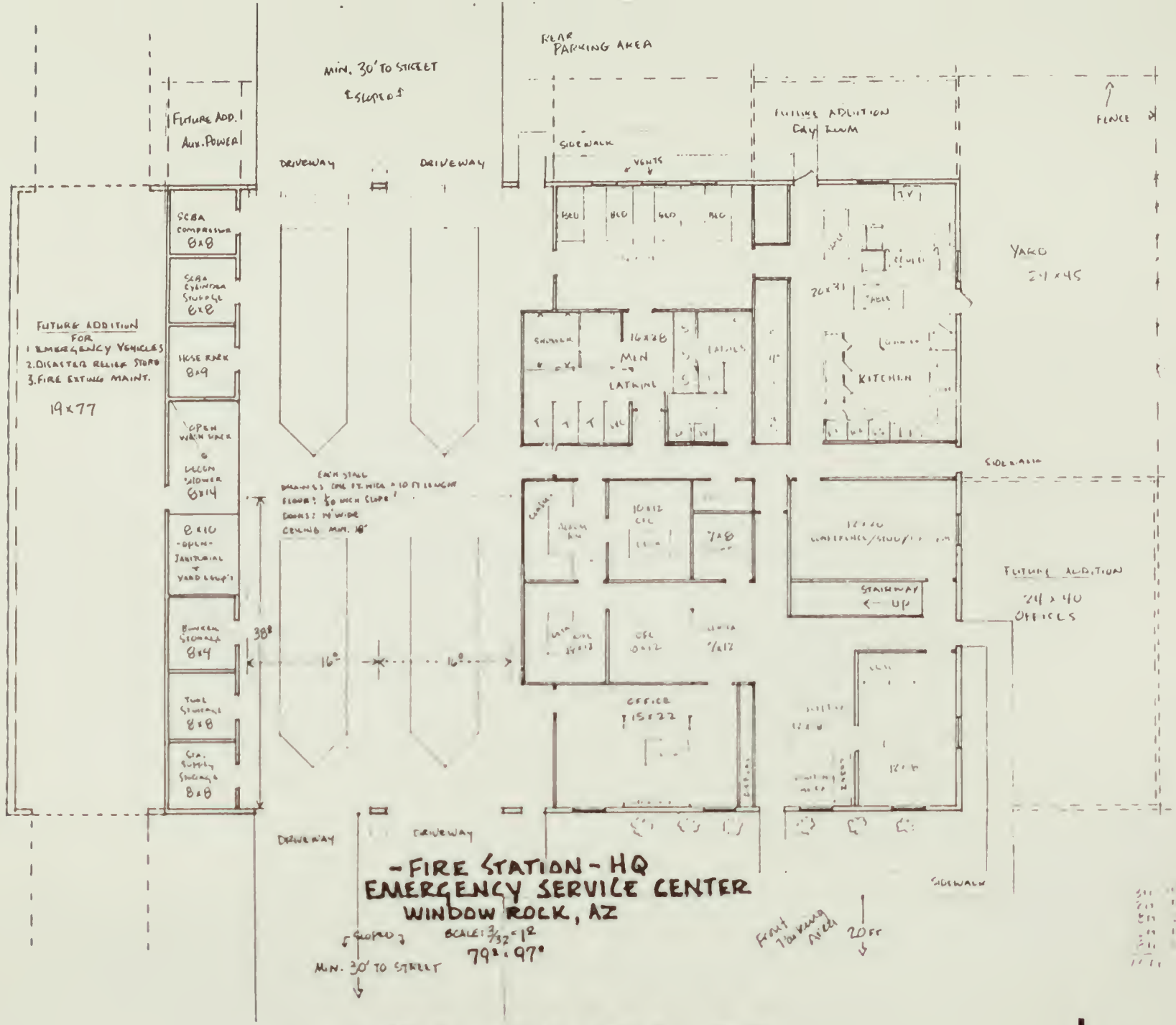
1. 750 Pumper: Minimum 4 firefighter/shift
2. Rescue/Pumper: Minimum 2 firefighter/shift
3. Staff: Minimum 1 Officer-in-charge/shift

The shifts (A,B,C) will require approximately seven (7) personnel per 24-hour shift for suppression and rescue operations. All other operations will require additional personnel and equipment.

SAMPLE

FIRE STATION - 2ND FLOOR
WINDOW ROCK, AZ





SAMPLE

U S GOVERNMENT PRINTING OFFICE 1985—676-504 45022 REGION NO 8

DATE DUE
